



Product catalogue

# PRODUCT CATALOG.

Our product range for you.

# WE ARE SHAPING THE FUTURE OF COMPRESSED AIR TECHNOLOGY.

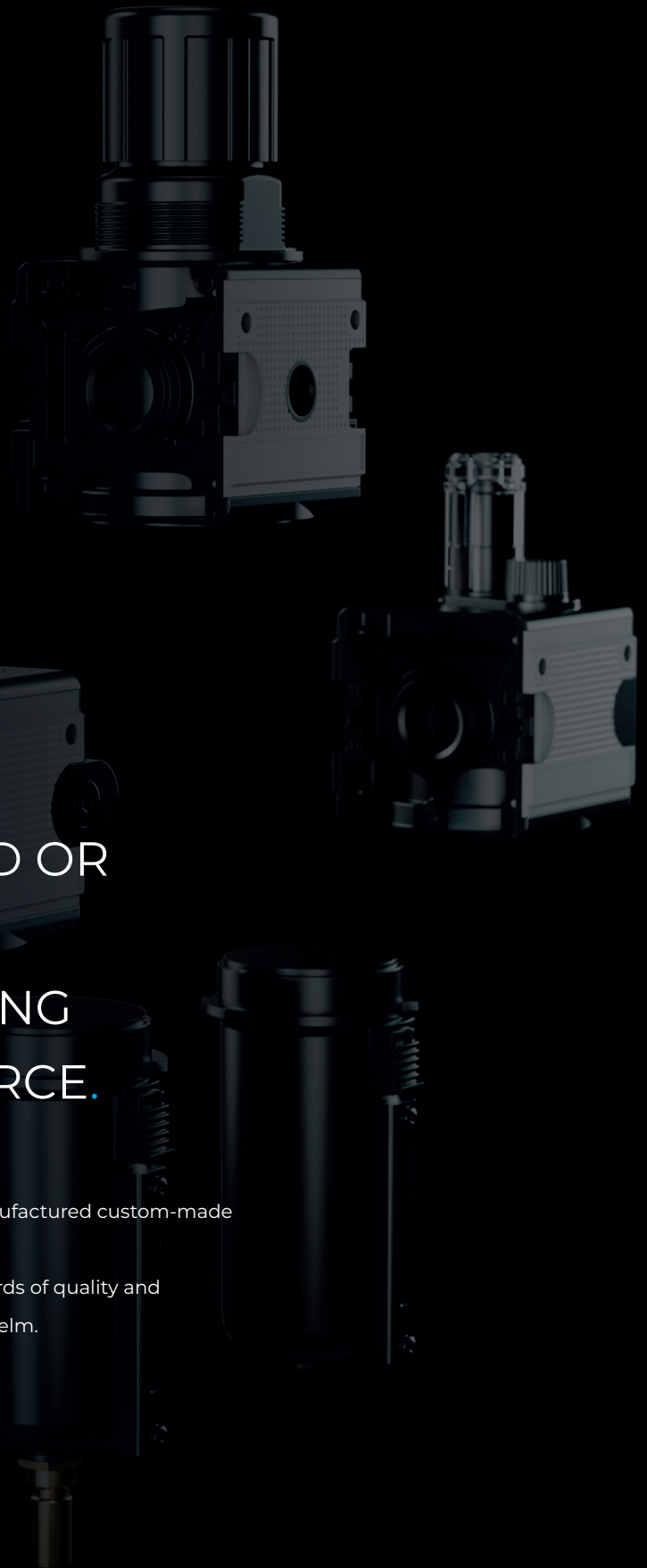
Our aim is to drive innovation and remain an innovation leader by focusing on people. Together with our customers, we will break new ground.

The first-class quality of our products and individualized solutions will distinguish us as the strongest manufacturer and partner for our customers.

Our brand will inspire people and generate the highest desirability on the market.

We manage that. This is our drive that motivates us to give our all every day.

KNOCKS – We are shaping the future of compressed air technology.



# WHETHER STANDARD OR SPECIAL SOLUTIONS, WE OFFER EVERYTHING FROM A SINGLE SOURCE.

KNOCKS has an extensive FRL product portfolio.

We offer both standard products and individually manufactured custom-made solutions tailored to specific customer requirements.

Our products are manufactured to the highest standards of quality and durability at our development and production site in Selm.

## Our products



### STANDARD SERIES

Robust and solid.  
Suitable for the toughest requirements.

[page 5](#)



### MULTI-FIX SERIES

High Performance and modular design.  
Ideal for use in compressed air treatment  
in industry.

[page 23](#)



### FUTURA SERIES

Innovative, compact and modular paired  
with a strong price / performance ratio.

[page 49](#)



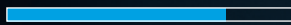
### PRECISION REGULATOR

For demanding industrial environments  
with maximum precision and reliability.

[page 81](#)



## PROPERTIES



weight  
high



modularity  
restricted



temperature resistance  
-10°C to +80°C



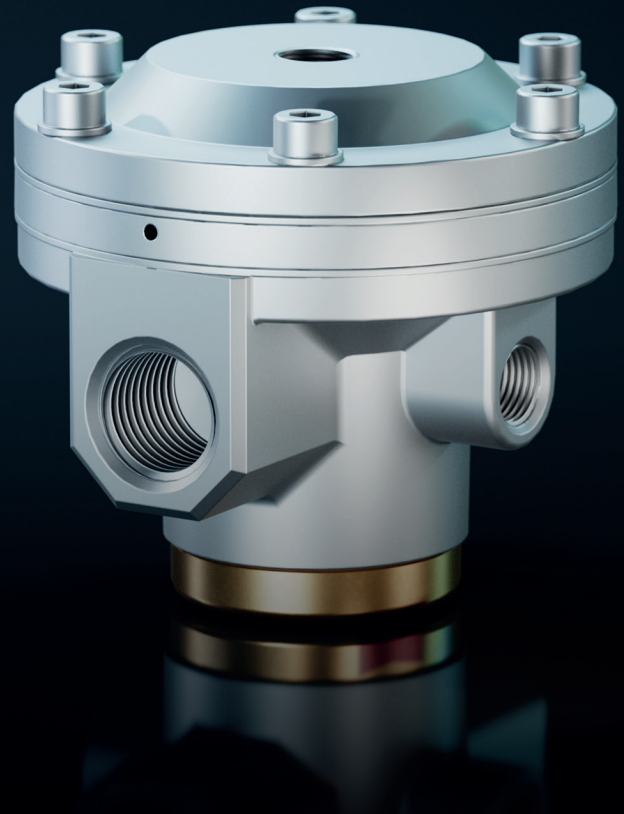
connection sizes  
to G3"



resistance capability  
very high



flow rate  
very high



# STANDARD-SERIES.

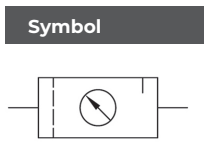
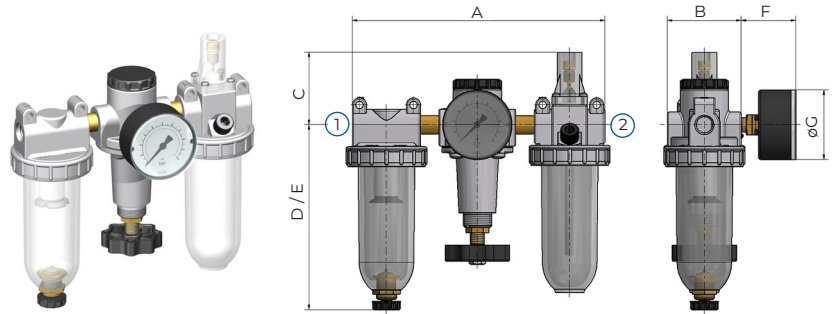
Our Standard Series represents an established product range of compressed air regulators on the market, characterized by its wide range of connection sizes, large flow volumes and impressive durability in the harshest industrial environments. The devices in the Standard series are designed to meet the highest standards and the most demanding requirements in various industrial environments. Even inlet pressures of up to

50 bar and temperatures from -10 °C to +80 °C are no problem for the Standard series.

# Service 3 unit

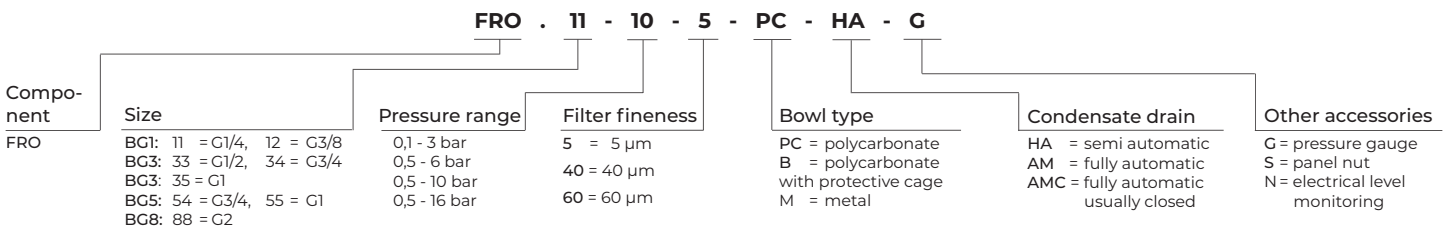
## Technical data

- Sintered filter, centrifugal principle; membrane pressure regulator with secondary venting; proportional lubricator
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Filter fineness: BG1-BG3: 5 µm; BG5: 40µm; BG8: 60µm
- Container: PC container; PC container with protective cage or metal container
- Condensate drain: Semi-automatic drain (HA) or fully automatic drain (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Materials: Body: die-cast zinc; spring cover: POM; diaphragm and seals: NBR
- Oil dosing at qv=1000 l/min: 1-2 d/min
- Oil type: CL32 according to DIN 51517 - ISO VG32

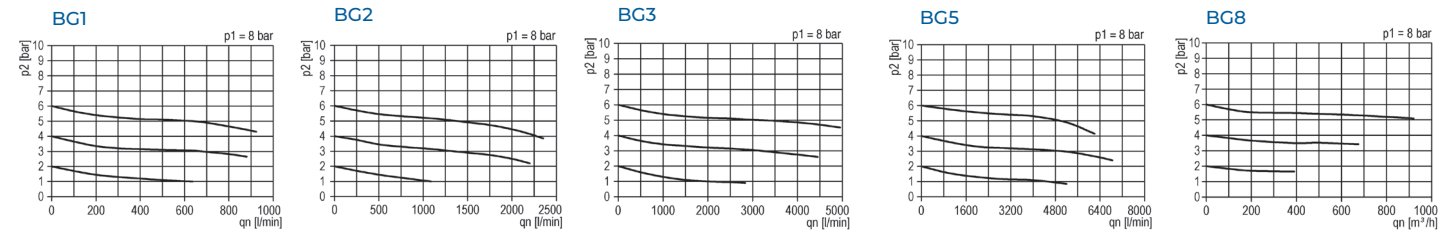


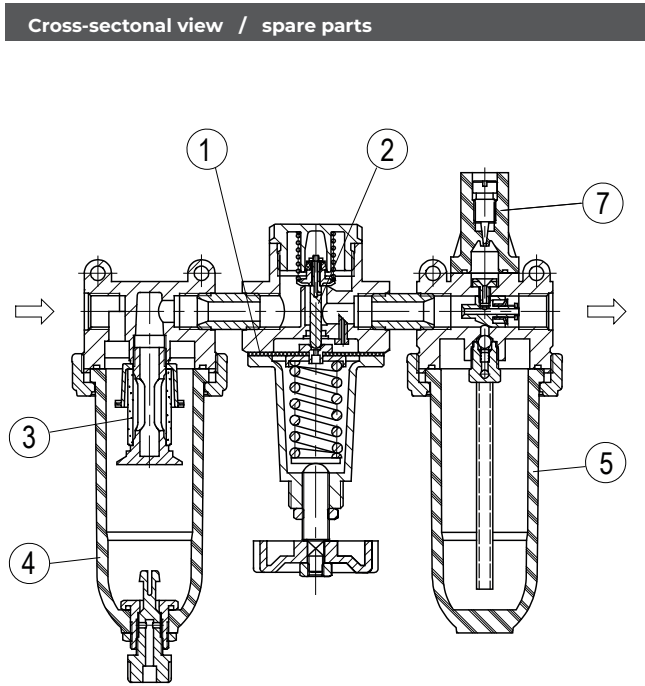
Symbol		Dimensions										
Designation	Size	Connection thread	A	B	C	D (HA)	E (AM)	F	ø G Pressure gauge	H Pressure gauge thread	K Panel thread	Flow P1=6bar; P2=6,3bar ΔP=1bar
FRO.11 G	BG1	G 1/4"	178	52	51	130	-	39	ø50	G1/4	M20x1,5	600 l/min
FRO.12 G	BG1	G 3/8"	178	52	51	130	-	39	ø50	G1/4	M20x1,5	600 l/min
FRO.22 G	BG2	G 3/8"	233	70	51	145	160	38	ø50	G1/4	M20x1,5	1400 l/min
FRO.23 G	BG2	G 1/2"	233	70	51	145	160	38	ø50	G1/4	M20x1,5	1400 l/min
FRO.33 G	BG3	G 1/2"	276	67	55	171	185	41	ø63	G1/4	M20x1,5	3200 /min
FRO.34 G	BG3	G 3/4"	296	67	58	171	187	41	ø63	G1/4	M20x1,5	3200 l/min
FRO.35 G	BG3	G1"	296	67	58	171	187	41	ø63	G1/4	M20x1,5	3200 l/min
FRO.54 G	BG5	G 3/4"	345	113	61	235	251	40	ø63	G1/4	-	5000 l/min
FRO.55 G	BG5	G 1"	345	113	61	235	251	40	ø63	G1/4	-	5000 l/min
FRO.88 G	BG8	G2"	444	118	77	401	411	40	ø63	G1/4	-	1800 l/min

## Designation



## Flow diagram





Cross-sectional view / spare parts					
Pos.	Designation	Material	Size	Article type	Item no.
1 2	Spare parts consisting of: membrane (1) valve cone (2) o-ring	brass-NBR-POM brass-NBR-PA6 NBR	1	ESA-DR.11	006113
			2	ESA-DR.22	005839
			3	ESA-DR.33	005990
			5	ESA-DR.55	006048
			7	ESA-DR.77 N	052505
3	filter element 5 µm	cellpor	1	C.00-26	052187
			3	C.33-62	052188
			3	C.33-62	052188
3	filter element 40 µm	cellpor	2	DF.22-6	050550
			3	C.33-28	015699
			5	C.55-28	008866
4	condensate bowl with semi-automatic condensate drain and o-ring	polycarbonate NBR	1	DF.11-PC-HA	004375
			2	DF.22-PC-HA	020255
			3+5	DF.33-PC-HA	000768
4	condensate bowl with fully automatic condensate drain (AM10) and o-ring	polycarbonate	1	DF.11-PC-AM	006190
			2	DF.22-PC-AM	004392
			3+5	DF.33-PC-AM	004393
4	condensate bowl with fully automatic drain (AM10/NC) and o-ring	polycarbonate	1	DF.11-PC-AMC	050611
			2	DF.22-PC-AMC	050612
			3+5	DF.33-PC-AMC	044990
4	metal bowl with semi-automatic drain and o-ring	metal	1	DF.11-M-HA	031504
			2	DF.22-M-HA	031536
			3+5	DF.33-M-HA	025447
4	metal bowl with fully automatic drain (AM10) and o-ring	metal	1	DF.11-M-AM	026550
			2	DF.22-M-AM	000769
			3+5	DF.33-M-AM	031473
4	metal bowl with fully automatic drain (AM10/NC) and o-ring	metal	1	DF.11-M-AMC	050615
			2	DF.22-M-AMC	050616
			3+5	DF.33-M-AMC	050617
5	oil bowl with o-ring	polycarbonate	1	DO.11	006244
			2	DO.22	006966
			3+5	DO.33	005581
5	metal oil bowl with o-ring	zinc die casting	1	DO.11 M	006999
			2	DO.22 M	007003
			3+5	DO.33 M	006989
6	bowl guard with screw cap	metal	1	DF.11-35	031657
			2	DF.22-11	031754
			3+5	DF.33-11	031624
7	dome assembly	polycarbonate seals: NBR			

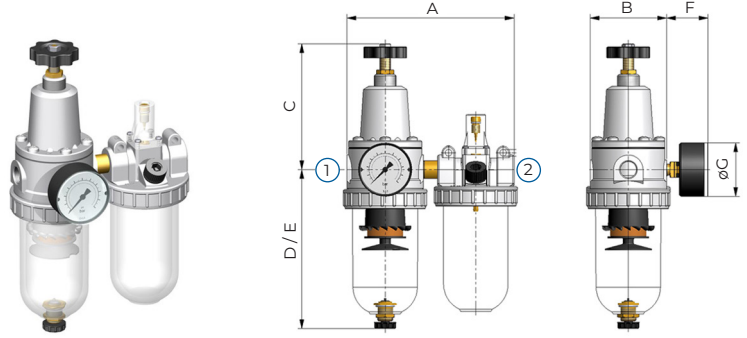
**Accessories**

Item no.	Designation	Item no.	Designation
007024	BW.10	049783	WH.M 20
049757	BW.20		
009487	BW.30	008944	WH.M20 / DR.11-7
050549	BW.50 N		
	galvanized mounting bracket for size BG1		mounting bracket for panel mounting
	galvanized mounting bracket for size BG2		
	galvanized mounting bracket for size BG3		mounting bracket for panel mounting
	galvanized mounting bracket for size BG5 + BG8		with panel nut M30x1,5 and washer
051939	DR.11-7		
054607	ESA-DR.11-7		
	panel nut M20x1,5 for size BG1 - BG3		
	panel nut M20x1,5 with washer		

# Service 2 unit

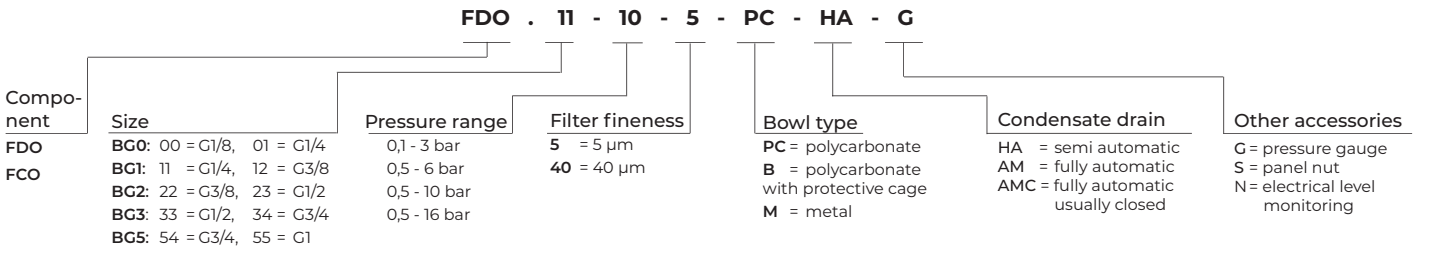
## Technical data

- Sintered filter, centrifugal principle; membrane pressure regulator with secondary venting; proportional lubricator
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Filter fineness: BG0-BG1+ BG3: 5 µm, BG3 + BG5: 40 µm
- Container: PC container; PC container with protective cage or metal container
- Condensate drain: Semi-automatic drain (HA) or fully automatic drain (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Materials: Body: die-cast zinc; spring cover: POM; diaphragm and seals: NBR
- Oil dosing at qv=1000 l/min: 1-2 d/min
- Oil type: CL32 according to DIN 51517 - ISO VG32

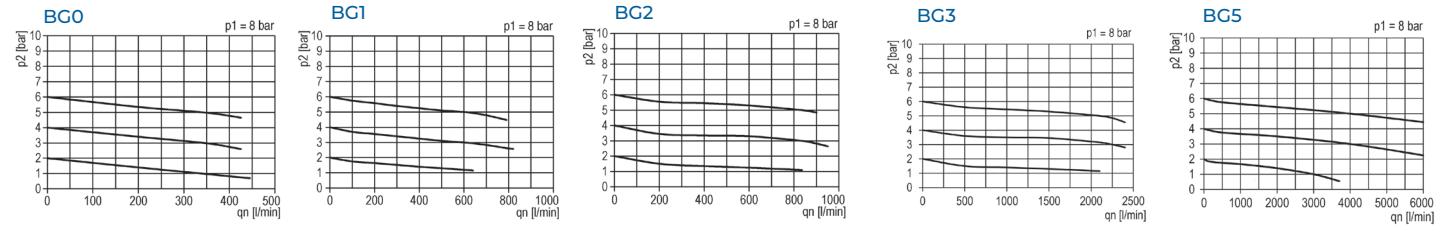


Symbol	Dimensions												
	Designation	Size	Connection thread	A	B	C	D (HA)	E (AM)	F	øG Pressure gauge	H Pressure gauge thread	K Panel thread	Flow P1=6bar; P2=6,3bar ΔP=1bar
	FDO.00 G	BG0	G 1/8"	85	40	64	102	-	~36	ø40	G1/8	M30x1,5	350 l/min
	FDO.01 G	BG0	G 1/4"	88	40	64	102	-	~36	ø40	G1/8	M30x1,5	350 l/min
	FDO.11 G	BG1	G 1/4"	117	52	98	130	-	~39	ø50	G1/4	M20x1,5	600 l/min
	FDO.12 G	BG1	G 3/8"	117	52	98	130	-	~39	ø50	G1/4	M20x1,5	600 l/min
	FDO.22 G	BG2	G 3/8"	153	70	116	148	160,5	~39	ø50	G1/4	M20x1,5	800 l/min
	FDO.23 G	BG2	G 1/2"	153	70	116	148	160,5	~39	ø50	G1/4	M20x1,5	800 l/min
	FDO.33 G	BG3	G 1/2"	175	ø82	130	171	178	~37	ø63	G1/4	M20x1,5	3200 /min
	FCO.54 G	BG5	G 3/4"	240	113	190	269	281	40	ø63	G1/4	-	5000 l/min
	FCO.55 G	BG5	G 1"	240	113	190	269	281	40	ø63	G1/4	-	5000 l/min

## Designation



## Flow diagram



Cross-sectional view / spare parts		Pos.	Designation	Material	Size	Article type	Item no.
	1	Spare parts consisting of: membrane (1) valve cone (2) o-ring	Ms-NBR-POM Ms-NBR-PA6 NBR	1	ESA-DR.11	006113	
	2			2	ESA-DR.22	005839	
	3			3	ESA-DR.33	005990	
	5			5	ESA-DR.55	006048	
	7			7	ESA-DR.77 N	052505	
	3	filter element 5 µm	cellpor	1	C.00-26	052187	
				3	C.33-62	052188	
				3	C.33-62	052188	
	3	filter element 40 µm	cellpor	2	DF.22-6	050550	
				3	C.33-28	015699	
			5	C.55-28	008866		
4	condensate bowl with semi-automatic condensate drain and o-ring	polycarbonate NBR	1	DF.11-PC-HA	004375		
			2	DF.22-PC-HA	020255		
			3+5	DF.33-PC-HA	000768		
4	condensate bowl with fully automatic condensate drain (AM10) and o-ring	polycarbonate	1	DF.11-PC-AM	006190		
			2	DF.22-PC-AM	004392		
			3+5	DF.33-PC-AM	004393		
4	condensate bowl with fully automatic drain (AM10/NC) and o-ring	polycarbonate	1	DF.11-PC-AMC	050611		
			2	DF.22-PC-AMC	050612		
			3+5	DF.33-PC-AMC	044990		
4	metal bowl with semi-automatic drain and o-ring	metal	1	DF.11-M-HA	031504		
			2	DF.22-M-HA	031536		
			3+5	DF.33-M-HA	025447		
4	metal bowl with fully automatic drain (AM10) and o-ring	metal	1	DF.11-M-AM	026550		
			2	DF.22-M-AM	000769		
			3+5	DF.33-M-AM	031473		
4	metal bowl with fully automatic drain (AM10/NC) and o-ring	metal	1	DF.11-M-AMC	050615		
			2	DF.22-M-AMC	050616		
			3+5	DF.33-M-AMC	050617		
5	oil bowl with o-ring	polycarbonate	1	DO.11	006244		
			2	DO.22	006966		
			3+5	DO.33	005581		
5	metal oil bowl with o-ring	zinc die casting	1	DO.11 M	006999		
			2	DO.22 M	007003		
			3+5	DO.33 M	006989		
6	bowl guard with screw cap	metal	1	DF.11-35	031657		
			2	DF.22-11	031754		
			3+5	DF.33-11	031624		
7	dome assembly	polycarbonate seals: NBR					

Accessories

Item no. Designation

007024	BW.10	galvanized mounting bracket for size BG1
049757	BW.20	galvanized mounting bracket for size BG2
009487	BW.30	galvanized mounting bracket for size BG3
050549	BW.50 N	galvanized mounting bracket for size BG5 + BG8

051939	DR.11-7	panel nut M20x1,5 for size BG1 - BG3
054607	ESA-DR.11-7	panel nut M20x1,5 with washer

Item no. Designation

049783	WH.M 20	mounting bracket for panel mounting
008944	WH.M20 / DR.11-7	mounting bracket for panel mounting with panel nut M30x1,5 and washer



Cross-sectional view / spare parts		Pos.	Designation	Material	Size	Article type	Item no.
	1 2	Spare parts consisting of: membrane (1) valve cone (2) o-ring	brass-NBR-POM brass-NBR-PA6 NBR	1 2 3 5 7	ESA-DR.11 ESA-DR.22 ESA-DR.33 ESA-DR.55 ESA-DR.77 N	006113 005839 005990 006048 052505	
	3	filter element 5 µm	cellpor	1 3 3	C.00-26 C.33-62 C.33-62	052187 052188 052188	
	3	filter element 40 µm	cellpor	2 3 5	DF.22-6 C.33-28 C.55-28	050550 015699 008866	
	4	condensate bowl with semi-automatic condensate drain and o-ring	polycarbonate NBR	1 2 3+5	DF.11-PC-HA DF.22-PC-HA DF.33-PC-HA	004375 020255 000768	
	4	condensate bowl with fully automatic condensate drain (AM10) and o-ring	polycarbonate	1 2 3+5	DF.11-PC-AM DF.22-PC-AM DF.33-PC-AM	006190 004392 004393	
	4	condensate bowl with fully automatic drain (AM10/NC) and o-ring	polycarbonate	1 2 3+5	DF.11-PC-AMC DF.22-PC-AMC DF.33-PC-AMC	050611 050612 044990	
	4	metal bowl with semi-automatic drain and o-ring	metal	1 2 3+5	DF.11-M-HA DF.22-M-HA DF.33-M-HA	031504 031536 025447	
	4	metal bowl with fully automatic drain (AM10) and o-ring	metal	1 2 3+5	DF.11-M-AM DF.22-M-AM DF.33-M-AM	026550 000769 031473	
	4	metal bowl with fully automatic drain (AM10/NC) and o-ring	metal	1 2 3+5	DF.11-M-AMC DF.22-M-AMC DF.33-M-AMC	050615 050616 050617	
	5 6	bowl guard (5) with screw cap (6)	metal	1 2 3+5	DF.11-35 DF.22-11 DF.33-11	031657 031754 031624	

**Accessories**

Item no.	Designation	
007024	BW.10	galvanized mounting bracket for size BG1
049757	BW.20	galvanized mounting bracket for size BG2
009487	BW.30	galvanized mounting bracket for size BG3
050549	BW.50 N	galvanized mounting bracket for size BG5 + BG8
051939	DR.11-7	panel nut M20x1,5 for size BG1 - BG3
054607	ESA-DR.11-7	panel nut M20x1,5 with washer

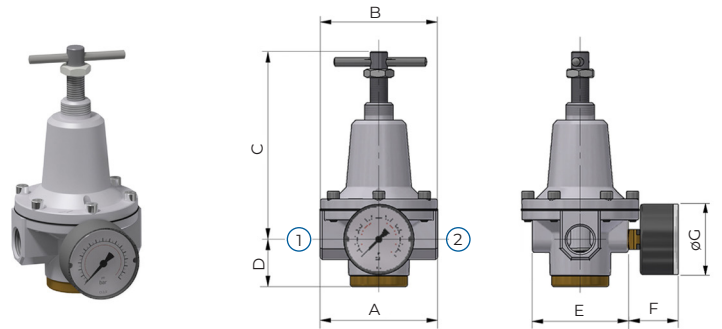
Item no.	Designation	
049783	WH.M 20	mounting bracket for panel mounting
008944	WH.M20 / DR.11-7	mounting bracket for panel mounting with panel nut M30x1,5 and washer

# Pressure regulator

## Technical data

- membrane pressure regulator with secondary venting
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar \*
- Output pressure P2 max.: 16 bar
- Installation position: vertical
- Materials: Body: die-cast zinc; diaphragm and seals: NBR

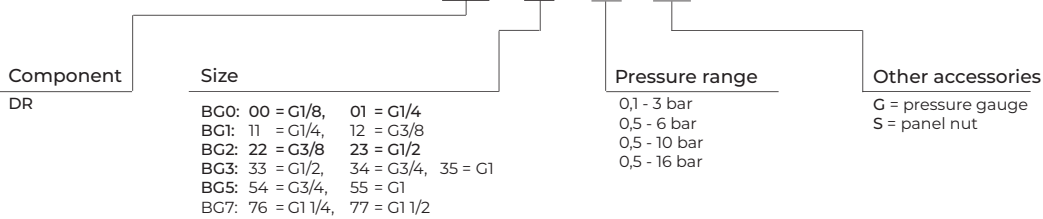
\*From BG1: Also available with P1 max. 40 bar



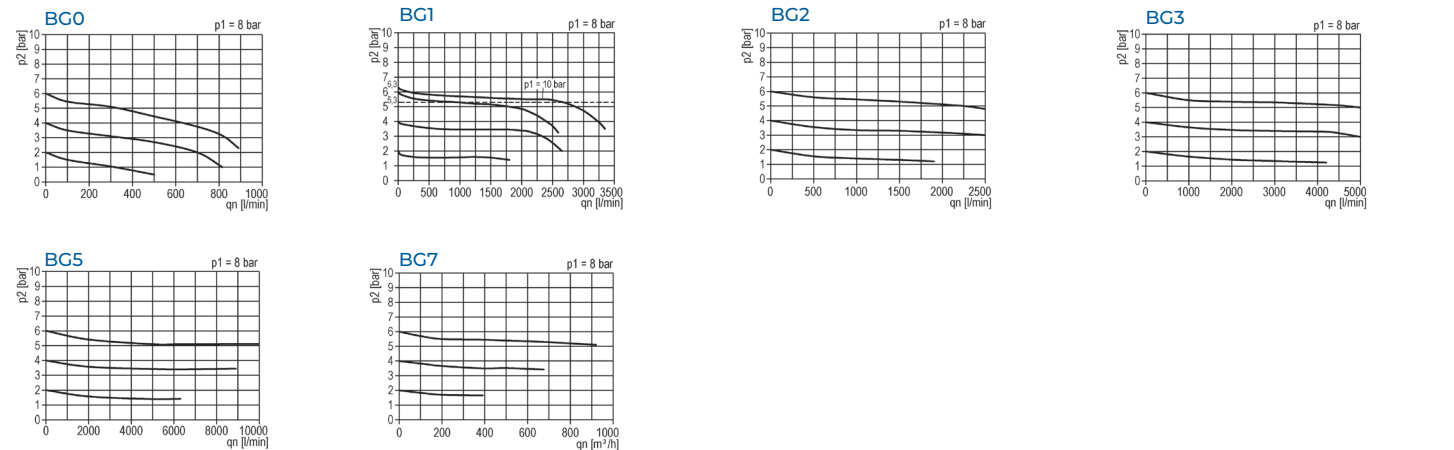
Symbol	Dimensions													
	Designation	Size	Conne- ction thread	A	B	C	D	E	F	øG Pressure gauge	H Pressure gauge thread	K Panel thread	Flow P1=6bar; P2=6,3bar ΔP=1bar	P1: max 40bar available
	DR.00 G	BG0	G 1/8"	40	-	63	15	40	34,5	ø40	G1/8	M30x1,5	330 l/min	Nein
	DR.01 G	BG0	G 1/4"	40	-	63	15	40	34,5	ø40	G1/8	M30x1,5	330 l/min	Nein
	DR.11 G	BG1	G 1/4"	54	ø46	97	32	52	39	ø50	G1/4	M20x1,5	1000 l/min	Ja
	DR.12 G	BG1	G 3/8"	54	ø46	97	32	52	39	ø50	G1/4	M20x1,5	1000 l/min	Ja
	DR.22 G	BG2	G 3/8"	70	ø67	112	34	70	38	ø50	G1/4	M20x1,5	2200 l/min	Ja
	DR.23 G	BG2	G 1/2"	70	ø67	112	34	70	38	ø50	G1/4	M20x1,5	2200 l/min	Ja
	DR.33 G	BG3	G 1/2"	82	ø81	130	33	67	39	ø63	G1/4	M20x1,5	5000 l/min	Ja
	DR.34 G	BG3	G 3/4"	90	ø81	130	33	67	39	ø63	G1/4	M20x1,5	5000 l/min	Ja
	DR.35 G	BG3	G1"	90	ø81	130	33	67	39	ø63	G1/4	M20x1,5	5000 l/min	Ja
	DR.54 G	BG5	G 3/4"	117	ø125	190	48	113	39	ø63	G1/4	-	11000 l/min	Ja
	DR.55 G	BG5	G 1"	117	ø125	190	48	113	39	ø63	G1/4	-	11000 l/min	Ja
	DR.76 G	BG7	G 1 1/4"	119	ø125	201	52	118	39	ø63	G1/4	-	16500 l/min	Ja
	DR.77 G	BG7	G2"	119	ø125	201	52	118	39	ø63	G1/4	-	16500 l/min	Ja

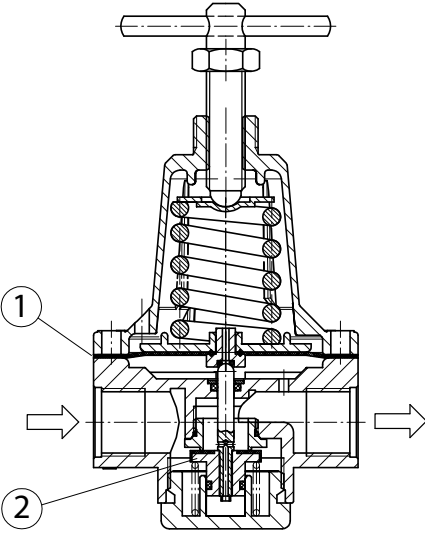
## Designation

DR . 11 - 10 - G



## Flow diagram



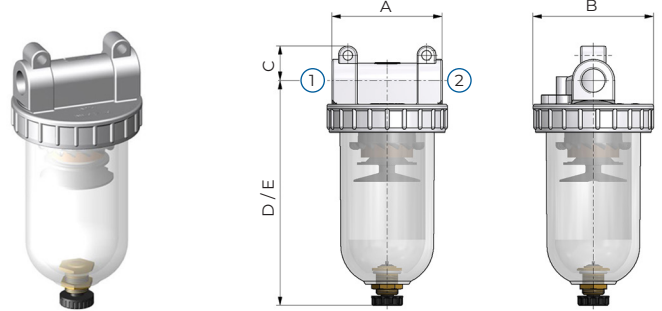
Cross-sectional view / spare parts		Pos.	Designation	Material	Size	Article type	Item no.
					0	ESA-DR.00	007744
					1	ESA-DR.11	006113
					1	ESA-DR.11 (40bar)	057273
					2	ESA-DR.22	005850
					2	ESA-DR.22 (40bar)	057275
					3	ESA-DR.33	005990
					3	ESA-DR.33(40bar)	057276
					5	ESA-DR.55	006048
					5	ESA-DR.55 (40bar)	057278
				7	ESA-DR.77 N	052505	
				8	ESA-DR.77 (40bar)	057280	

Accessories		
Item no.	Designation	
007024	BW.10	galvanized mounting bracket for size BG1
049757	BW.20	galvanized mounting bracket for size BG2
009487	BW.30	galvanized mounting bracket for size BG3
050549	BW.50 N	galvanized mounting bracket for size BG5 + BG8
Item no.	Designation	
051939	DR.11-7	panel nut M20x1,5 for size BG1 - BG3
054607	ESA-DR.11-7	panel nut M20x1,5 with washer
049783	WH.M 20	mounting bracket for panel mounting
008944	WH.M20 / DR.11-7	mounting bracket for panel mounting with panel nut M30x1,5 and washer

# Filter

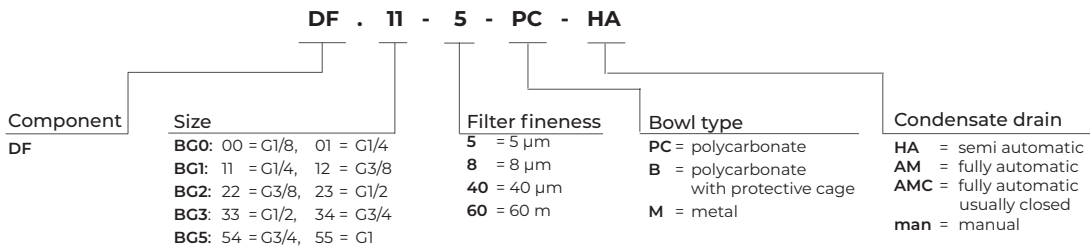
## Technical data

- Sintered filter, centrifugal principle
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Filter fineness: BG0-BG1: 5 µm, BG2 - BG5: 40 µm
- Container: PC container; PC container with protective cage or metal container
- Condensate drain: Semi-automatic drain (HA) or fully automatic drain (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Materials: Body: die-cast zinc, seals: NBR

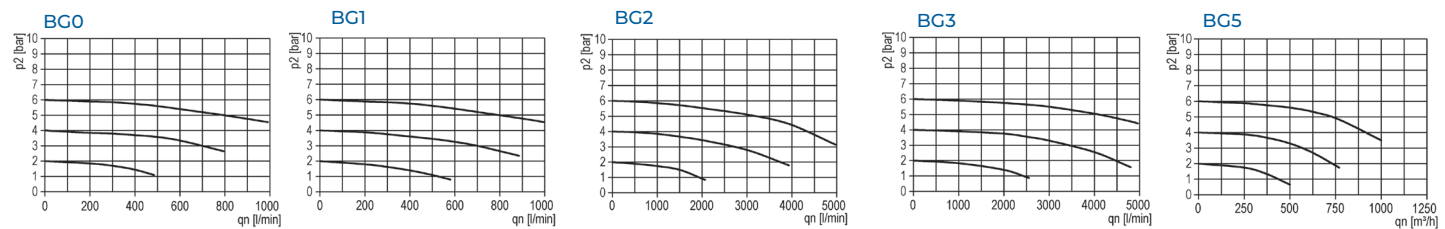


Symbol	Dimensions										
	Designation	Size	Connection thread	A	B	C	D (HA)	E (AM)	metal man	Filter element	Flow P1=6bar; P2=6,3bar ΔP=1bar
	DF.00	BG0	G 1/8"	40	ø40	10	102	-		5 µm	800 l/min
	DF.01	BG0	G 1/4"	40	ø40	10	102	-		5 µm	800 l/min
	DF.11	BG1	G 1/4"	48	ø57	19	130	146		5 µm	800 l/min
	DF.12	BG1	G 3/8"	48	ø57	19	130	146		5 µm	800 l/min
	DF.22	BG2	G 3/8"	70	ø77	22	142	160		5 µm	3100 l/min
	DF.23	BG2	G 1/2"	70	ø77	22	142	160		5 µm	3100 l/min
	DF.33	BG3	G 1/2"	79	ø87	24	170	185		5 µm	4000 l/min
	DF.34	BG3	G 3/4"	90	ø87	33	173	187	173	5 µm	4000 l/min
	DF.35	BG3	G 1"	90	ø87	33	173	187	173	5 µm	4000 l/min
	DF.54	BG5	G 3/4"	105	ø100	35	235	251		40 µm	5000 l/min
	DF.55	BG5	G 1"	105	ø100	35	235	251		40 µm	5000 l/min
	DF.56	BG5	G 1 1/4"	125	ø100	45	245	260	246	40 µm	12500 l/min
	DF.57	BG5	G 1 1/2"	125	ø100	45	245	260	246	40 µm	12500 l/min
	DF.86	BG8	G 1 1/4"	148	ø131	51	396	411		8 µm, 60 µm	30000 l/min
	DF.87	BG8	G 1 1/2"	148	ø131	51	396	411		8 µm, 60 µm	30000 l/min
	DF.88	BG8	G 2"	148	ø131	51	396	411		8 µm, 60 µm	30000 l/min

## Designation



## Flow diagram



Cross-sectional view / spare parts		Pos.	Designation	Material	Size	Article type	Item no.
	1	filter element 5 µm	cellpor	0 - 2	C.00-26	052187	
					3	C.33-62	052188
		filter element 40 µm	cellpor	5	C.55-28	008866	
		filter element 8 µm	cellpor	8	DF.88-22	018457	
			filter element 60 µm	cellpor	8	DF.88-21	014413
	2	condensate bowl with semi-automatic condensate drain and o-ring (3)	polycarbonate NBR	0	C.00 HA4	011972	
				1	DF.11-PC-HA	004375	
				2	DF.22-PC-HA	020255	
				3+5	DF.33-PC-HA	000768	
	2	condensate bowl with fully automatic condensate drain (AM10) and o-ring (3)	polycarbonate	0	C.11-PC-AM	004429	
				1	DF.11-PC-AM	006190	
				2	DF.22-PC-AM	004392	
				3+5	DF.33-PC-AM	004393	
	2	condensate bowl with fully automatic drain (AM10/NC) and o-ring (3)	polycarbonate	0	C.11-PC-AMC	037226	
				1	DF.11-PC-AMC	050611	
				2	DF.22-PC-AMC	050612	
				3+5	DF.33-PC-AMC	044990	
	2	metal bowl with semi-automatic drain and o-ring (3)	metal	0	C.00 M HA	012870	
1				DF.11-M-HA	031504		
2				DF.22-M-HA	031536		
3+5				DF.33-M-HA	025447		
2	metal bowl with fully automatic drain (AM10) and o-ring (3)	metal	0	C.11-M-AM	004411		
			1	DF.11-M-AM	026550		
			2	DF.22-M-AM	000769		
			3+5	DF.33-M-AM	031473		
2	metal bowl with fully automatic drain (AM10/NC) and o-ring (3)	metal	1	DF.11-M-AMC	050615		
			2	DF.22-M-AMC	050616		
			3+5	DF.33-M-AMC	050617		
2	metal bowl with manual drain	metal	2	DF.22-M-MA	004374		
			3+5	DF.33-M-MA	031411		
3	o-ring	NBR	0 - 5	-	-		
-	bowl guard with screw cap	metal	1	DF.11-35	031657		
			2	DF.22-11	031754		
			3+5	DF.33-11	031624		

**Accessories**

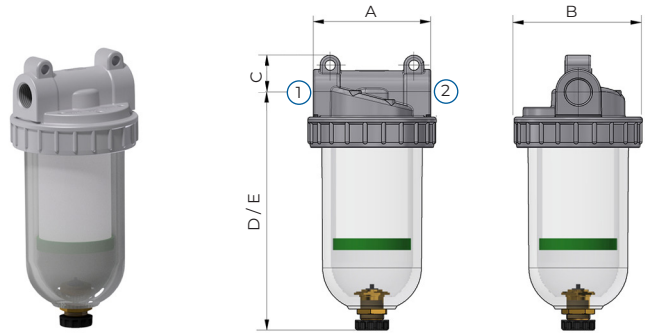
Item no.	Designation	
007024	BW.10	galvanized mounting bracket for size BG1
049757	BW.20	galvanized mounting bracket for size BG2
009487	BW.30	galvanized mounting bracket for size BG3
050549	BW.50 N	galvanized mounting bracket for size BG5 + BG8
051939	DR.11-7	panel nut M20x1,5 for size BG1 - BG3
054607	ESA-DR.11-7	panel nut M20x1,5 with washer

Item no.	Designation	
049783	WH.M 20	mounting bracket for panel mounting
008944	WH.M20 / DR.11-7	mounting bracket for panel mounting with panel nut M30x1,5 and washer

# Fine filter

## Technical data

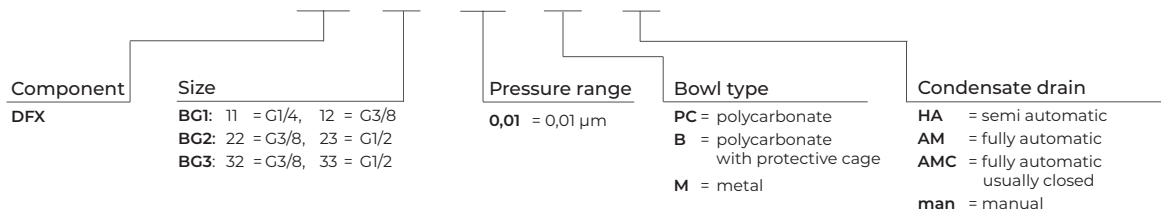
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Filter fineness: 0,01 µm
- Dust separation: >0,01 µm 99,999%
- Residual oil content: 0,01 mg/m<sup>3</sup>
- Container: polycarbonate container, polycarbonate container with protective cage or metal container
- Condensate drain: Semi-automatic drain (HA) or fully automatic drain (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Materials: Body: die-cast zinc, seals: NBR



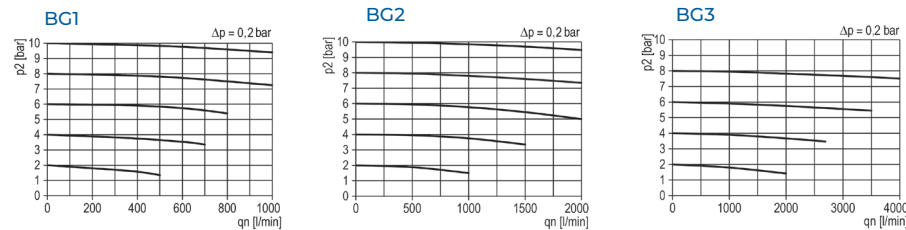
Symbol	Dimensions								
	Designation	Size	Connection thread	A	B	C	D PC HA	E M AM	Flow ΔP=0,2bar
	DFX.11	BG1	G 1/4"	48	ø57	20	130	-	600 l/min
	DFX.12	BG1	G 3/8"	48	ø57	20	130	-	600 l/min
	DFX.22	BG2	G 3/8"	70	ø77	22	142	155	900 l/min
	DFX.23	BG2	G 1/2"	70	ø77	22	142	155	900 l/min
	DFX.32	BG3	G 3/8"	79	ø87	24	170		4000 l/min
	DFX.33	BG3	G 1/2"	79	ø87	24	170		4000 l/min

## Designation

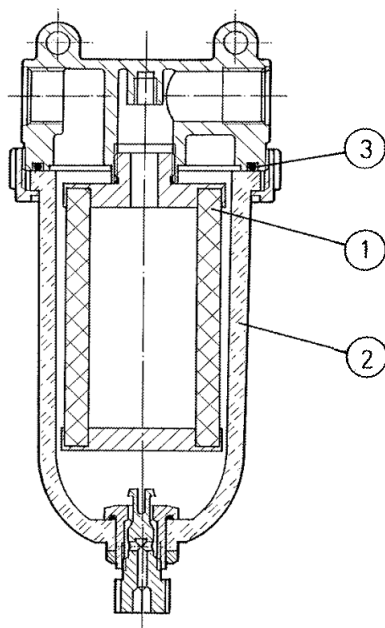
**DFX . 11 - 0,01 - PC - HA**



## Flow diagram



Cross-sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	fine filter element 0,01 µm with o-ring	glass fiber with polyester fleece	1	X 28/70	004417
			2	X 46/80	004418
			3	X 50/100	004419
2	condensate bowl with semi-automatic drain and o-ring (3)	polycarbonate NBR	1	DF.11-PC-HA	004375
			2	DF.22-PC-HA	020255
			3	DF.33-PC-HA	000768
2	metal bowl with semi-automatic drain and o-ring (3)	metal	1	DF.11-M-HA	031504
			2	DFX.22-M-HA	031536
			3	DF.33-M-HA	025447
3	o-ring	NBR	0 - 3	-	-
-	bowl guard with screw cap	metal	1	DF.11-35	031657
			2	DF.22-11	031754
			3+5	DF.33-11	031624

Accessories

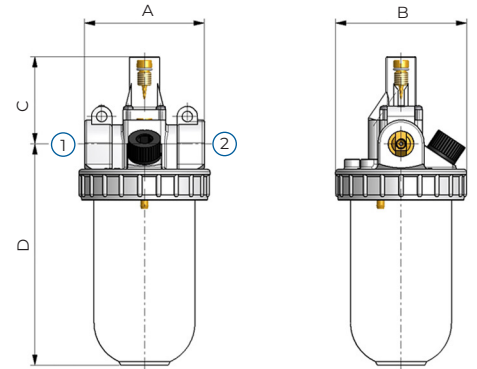
Item no. Designation

052191	ZW.10	mounting bracket kit with 2 screws M5x20 for size BG1
052192	ZW.30	mounting bracket kit with 2 screws M6x25 for size BG2+BG3

# Lubricator

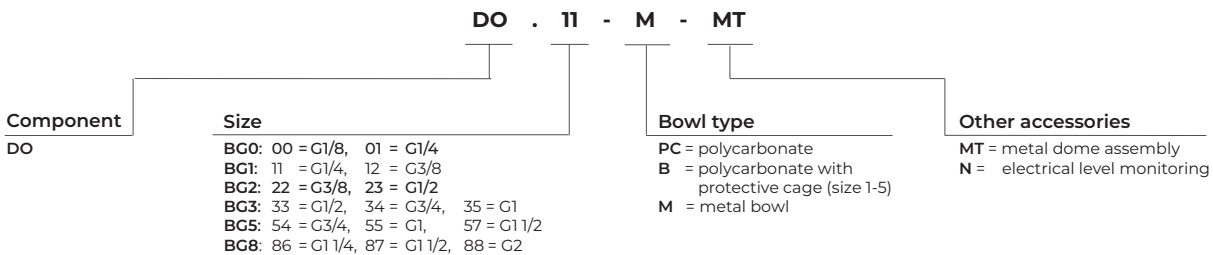
## Technical data

- Proportional lubricator
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar with polycarbonate bowl  
Input pressure P1 max.: 25 bar with metal bowl
- Installation position: vertical
- Oil container: polycarbonate, polycarbonate with protective cage or metal
- Materials: Body: die-cast zinc; diaphragm and seals: NBR
- Oil dosing at  $q_v=1000$  l/min: 1-2 d/min
- Oil type: CL32 according to DIN 51517 - ISO VG32

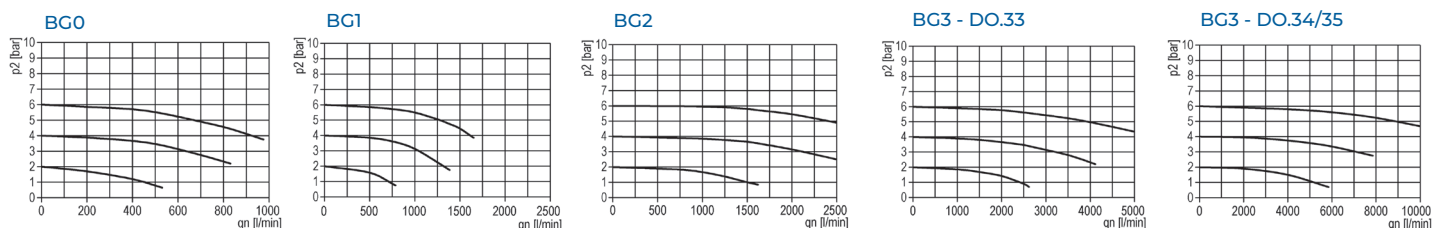


Symbol	Dimensions							Flow
	Designation	Size	Connection thread	A	B	C	D	P1=6bar; P2=6,3bar $\Delta P=1bar$
	DO.00	BG0	G 1/8"	40	ø40	50	95	650 l/min
	DO.01	BG0	G 1/4"	40	ø40	50	95	650 l/min
	DO.11	BG1	G 1/4"	50	ø57	51	118	1200 l/min
	DO.12	BG1	G 3/8"	50	ø57	51	118	1200 l/min
	DO.22	BG2	G 3/8"	70	ø76	51	130	2400 l/min
	DO.23	BG2	G 1/2"	70	ø76	51	130	2400 l/min
	DO.33	BG3	G 1/2"	76	ø86	55	148	4000 l/min
	DO.34	BG3	G 3/4"	90	ø86	58	160	9000 l/min
	DO.35	BG3	G1"	90	ø86	58	160	9000 l/min
	DO.54	BG5	G 3/4"	105	ø100	61	223	9000 l/min
	DO.55	BG5	G1"	105	ø100	61	223	9000 l/min
	DO.57	BG5	G1 1/2"	125	ø100	70	232	9000 l/min
	DO.86	BG8	G1 1/4"	150	ø131	77	383	11000 l/min
DO.87	BG8	G1 1/2"	150	ø131	77	383	11000 l/min	
DO.88	BG8	G2"	150	ø131	77	383	11000 l/min	

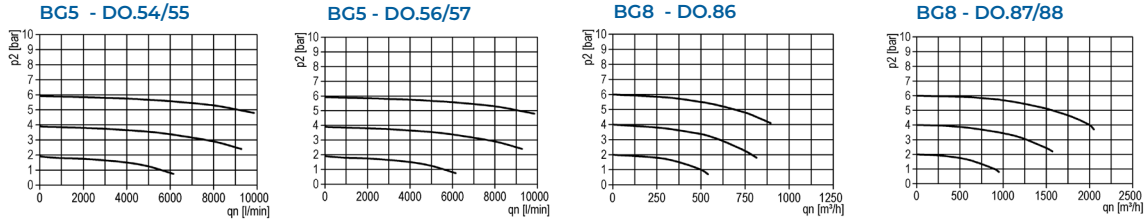
## Designation



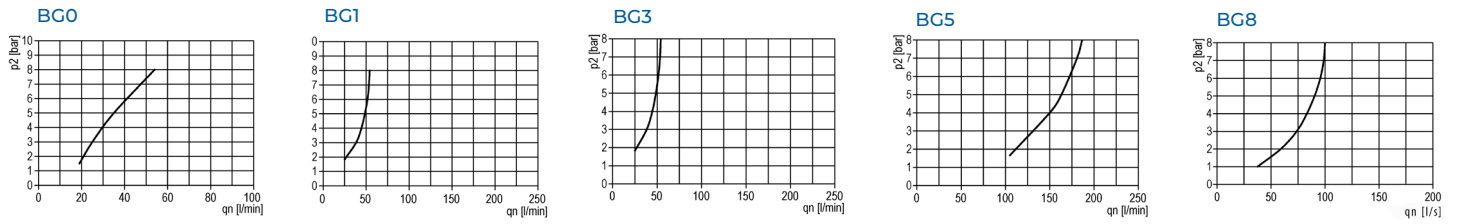
## Flow diagram



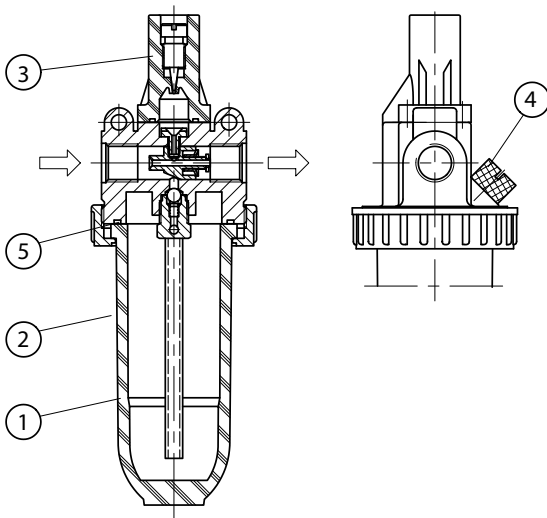
Flow diagram



Oiler response limit



Cross-sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	oil bowl with o-ring (3)	polycarbonate	0	L.00-PC	013178
			1	DO.11-PC	006244
			2	DO.22-PC	006966
			3+8	DO.33-PC	005581
1	metal oil bowl with o-ring (5)	zinkc die casting	0	L.00-M	013179
			1	DO.11-M	006999
			2	DO.22-M	007003
			3+8	DO.33-M	006989
2	bowl guard with screw cap	metal	1	DF.11-35	031657
			2	DF.22-11	031754
			3+8	DF.33-11	031624
3	dome assembly	polycarbonate seals: NBR	0	ESA.0-1312	054979
			1 - 4	ESA.1-1312	027942
			0 - 5	L.33-H	006357
4	oil filler cap	-	-	-	-
5	o-ring	NBR	-	-	-

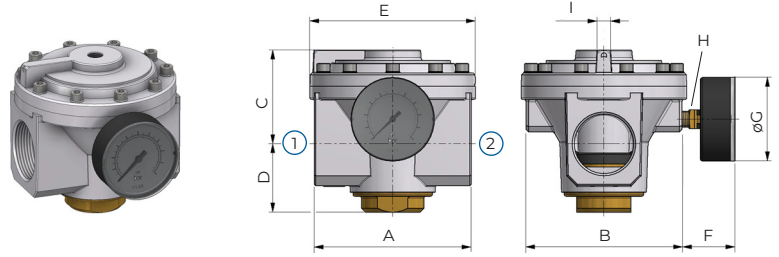
Accessories

Item no.	Designation	
052191	ZW.10	mounting bracket kit with 2 screws M5x20 for size BG1
052192	ZW.30	mounting bracket kit with 2 screws M6x25 for size BG2+BG3

# Pressure regulator, pneumatic pilot operated

## Technical data

- membrane pressure regulator with secondary venting pneumatic pilot operated
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 25 bar
- Installation position: vertical
- Materials: Body: die-cast zinc; diaphragm and seals: NBR



Symbol	Dimensions												
	<b>Designation</b>	<b>Size</b>	<b>Connection thread</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>øG Pressure gauge</b>	<b>H Pressure gauge thread</b>	<b>I Panel thread</b>	<b>Flow P1=6bar; P2=6,3bar ΔP=1bar</b>
	<b>DRI.33 G</b>	BG3	G 1/2"	82	ø81	33	33	ø82	39	ø63	G1/4	G 1/4	5000 /min
	<b>DRI.54 G</b>	BG5	G 3/4"	117	113	65	48	ø125	39	ø63	G1/4	G 1/4	11000 l/min
	<b>DRI.55 G</b>	BG5	G 1"	117	113	65	48	ø125	39	ø63	G1/4	G 1/4	11000 l/min
	<b>DRI.76 G</b>	BG7	G 1 1/4"	119	118	71	52	ø125	39	ø63	G1/4	G 1/4	16500 l/min
	<b>DRI.77 G</b>	BG7	G 1 1/2"	119	118	71	52	ø125	39	ø63	G1/4	G 1/4	16500 l/min
	<b>DRI.87 G</b>	BG8	G 1 1/2"	160	124	90	107	ø160	39	ø50	G1/4	G 1/4	50000 l/min
	<b>DRI.88 G</b>	BG8	G 2"	160	124	90	107	ø160	39	ø50	G1/4	G 1/4	50000 l/min

## Designation

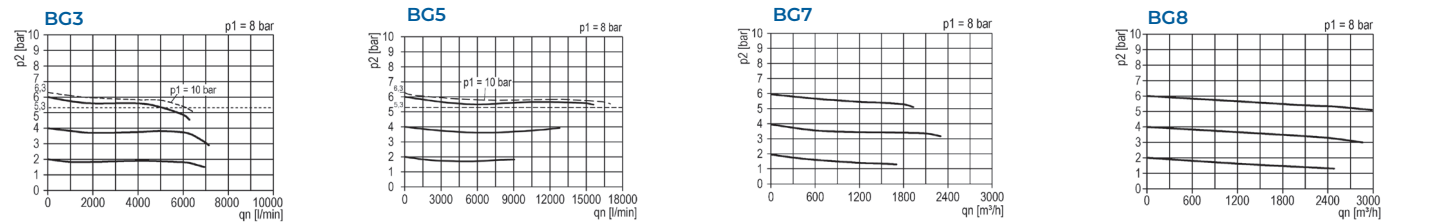
**DRI . 77 - 10 - G**

Component	Size	Pressure range	Other accessories
DRI	BG3: 33 = G1/2 BG5: 54 = G3/4, 55 = G1 BG7: 76 = G1 1/4, 77 = G1 1/2 BG8: 87 = G1 1/2, 88 = G 2	0,1 - 3 bar 0,5 - 6 bar 0,5 - 10 bar 0,5 - 16 bar	G = pressure gauge S = panel nut

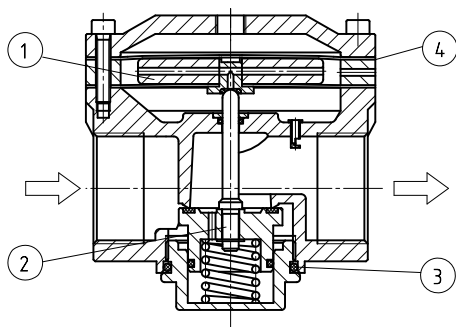
## Accessories

Item no.	Designation	Description
009487	BW.30	galvanized mounting bracket for size BG3
050549	BW.50 N	galvanized mounting bracket for size BG5 + BG7

## Flow diagram



## Cross-sectional view / spare parts

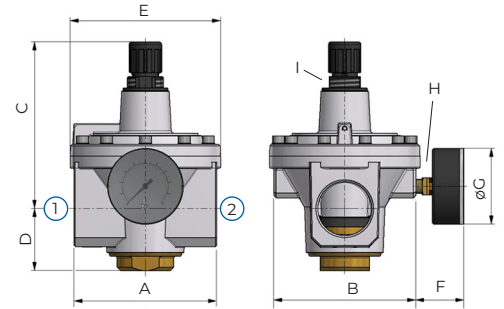
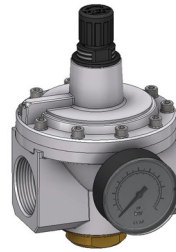


Pos.	Designation	Material	Size	Article type	Item no.
	Spare parts consisting of:		3	ESA-DRI.33	007758
1	membrane (1)	brass-NBR-POM	5	ESA-DRI.55 N	050482
2	valve cone (2)	brass-NBR-PA6	7	ESA-DRI.77 N	051218
3	o-ring (3)	NBR	8	ESA-DRI.88	007776
4	membrane (4)	NBR			

# Pressure regulator, pilot control

## Technical data

- membrane pressure regulator with secondary venting pilot control
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 25 bar
- Installation position: vertical
- Materials: Body: die-cast zinc; diaphragm and seals: NBR



Symbol	Dimensions												
	Designation	Size	Connection thread	A	B	C	D	E	F	øG Pressure gauge	H Pressure gauge thread	I pneum. connection	Flow P1=6bar; P2=6,3bar ΔP=1bar
	DRP.54 G	BG5	G 3/4"	117	113	144	48	ø125	39	ø63	G1/4	G 1/4	15000 l/min
	DRP.55 G	BG5	G 1"	117	113	144	48	ø125	39	ø63	G1/4	G 1/4	15000 l/min
	DRP.76 G	BG7	G 1 1/4"	119	118	154	52	ø125	39	ø63	G1/4	G 1/4	40000 l/min
	DRP.77 G	BG7	G 1 1/2"	119	118	154	52	ø125	39	ø63	G1/4	G 1/4	40000 l/min
	DRP.87 G	BG8	G 1 1/2"	160	124	157	106	ø160	39	ø50	G1/4	G 1/4	50000 l/min
	DRP.88 G	BG8	G 2"	160	124	157	106	ø160	39	ø50	G1/4	G 1/4	50000 l/min

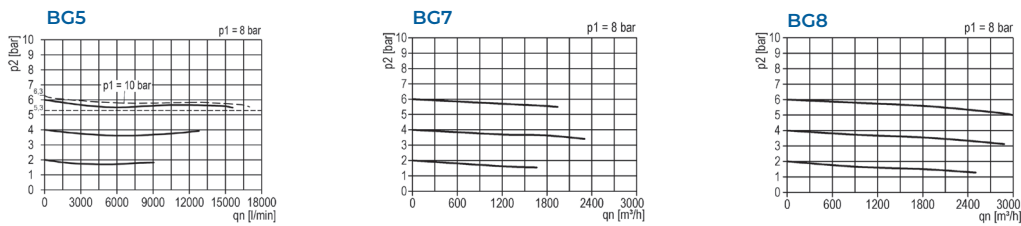
## Designation Accessories

**DRI . 77 - 10 - G**

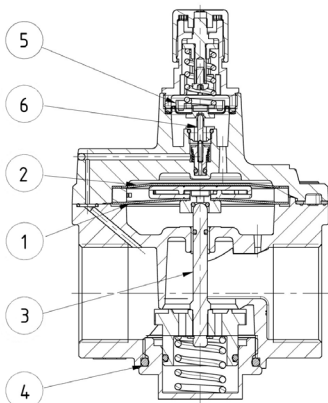
Component	Size	Pressure range	Other accessories
DRP	BG5: 54 = G3/4, 55 = G1 BG7: 76 = G1 1/4, 77 = G1 1/2 BG8: 87 = G1 1/2, 88 = G 2	0,1 - 3 bar 0,5 - 6 bar 0,5 - 10 bar 0,5 - 16 bar	G = pressure gauge K = lockable hand wheel

**Item no. Designation**  
050549 BW.50 N galvanized mounting bracket for size BG5 + BG7

## Flow diagram



## Cross-sectional view / spare parts



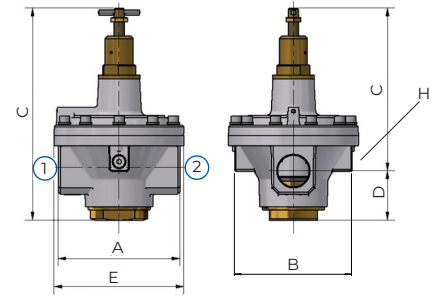
Pos.	Designation	Material	Size	Article type	Item no.
1 2 3 4 5 6	Spare parts consisting of:		5	ESA-DRP.55 N	051622
	1	diaphragm (1)			
	2	diaphragm (2)	brass-NBR-PA6		
	3	valve cone (3)		NBR	
	4	o-ring (4)	NBR		
	5	beaded diaphragm (5)		NBR	
6	valve cone (6)	8	ESA-DRP.88		007263

# Pressure regulator, pilot control\*

## Technical data

- membrane pressure regulator with secondary venting, pilot control
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 40 bar
- Output pressure P2 max.: 25 bar
- Installation position: vertical
- Materials: Body: die-cast zinc, spring cage: brass\*, diaphragm and seals: NBR

\*From series BGS: Pilot controlled and with brass spring cage.



Symbol	Dimensions												
	Designation	Size	Connection thread	A	B	C	D	E	F	Pressure gauge	H Pressure gauge thread	K Panel thread	Flow P1=6bar; P2=6,3bar ΔP=1bar
	HPDR.11 G	BG1	G 1/4"	54	∅46	97	32	52	39	∅50	G1/4	M20x1,5	1000 l/min
	HPDR.12 G	BG1	G 3/8"	54	∅46	97	32	52	39	∅50	G1/4	M20x1,5	1000 l/min
	HPDR.22 G	BG2	G 3/8"	70	∅67	112	34	70	38	∅50	G1/4	M20x1,5	2200 l/min
	HPDR.23 G	BG2	G 1/2"	70	∅67	112	34	70	38	∅50	G1/4	M20x1,5	2200 l/min
	HPDRP.54 G	BG5	G 3/4"	117	113	144	48	∅125	39	∅63	G1/4	M20x1,5	15000 l/min
	HPDRP.55 G	BG5	G 1"	117	113	144	48	∅125	39	∅63	G1/4	-	15000 l/min
	HPDRP.76 G	BG7	G 1 1/4"	119	118	154	52	∅125	39	∅63	G1/4	-	40000 l/min
	HPDRP.77 G	BG7	G 1 1/2"	119	118	154	52	∅125	39	∅63	G1/4	-	40000 l/min
HPDRP.87 G	BG8	G 1 1/2"	160	124	157	106	∅160	39	∅50	G1/4	-	50000 l/min	
HPDRP.88 G	BG8	G 2"	160	124	157	106	∅160	39	∅50	G1/4	-	50000 l/min	

## Designation Accessories

**HPDRP . 77 - 10 - G**

**Component**

HPDRP  
HPDR

**Size**

BG1: 11 = G1/8, 12 = G3/8  
 BG2: 22 = G3/8, 23 = G3/4  
 BG3: 33 = G1/2, 35 = G1  
 BG5: 54 = G3/4, 55 = G1  
 BG7: 76 = G1 1/4, 77 = G1 1/2  
 BG8: 87 = G1 1/2, 88 = G 2

**Pressure range**

0,1 - 3 bar  
 0,5 - 6 bar  
 0,5 - 10 bar  
 0,5 - 16 bar

**Other accessories**

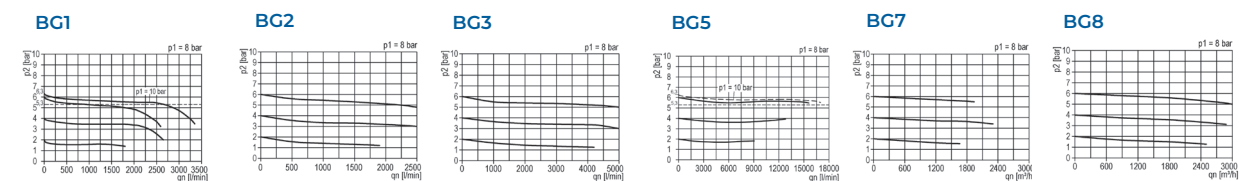
G = pressure gauge  
 K = Handwheel lockable

**Item no. Designation**

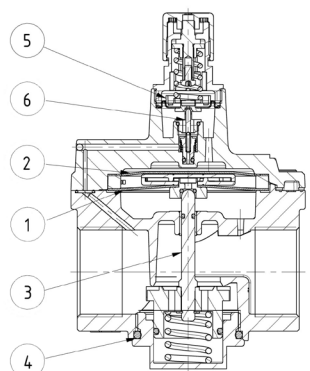
050549 BW.50 N galvanized mounting bracket for size BG5 + BG7\*

\*Only available in assembled version.

## Flow diagram



## Cross-sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
			1	ESA-HPDR.11	057272
	Spare parts consisting of:		2	ESA-HPDR.22	057274
1	diaphragm (1)	brass-NBR-POM brass-NBR-PA6 NBR NBR NBR brass-NBR	5	ESA-HPDRP.55	057277
2	diaphragm (2)		7	ESA-HPDRP.77	057279
3	valve cone (3)		8	ESA-DRP.88	007263
4	o-ring (4)				
5	beaded membrane (5)				
6	valve cone (6)				

We present

# MULTI-FIX-SERIES.

Our Multi-Fix-Series is characterized by its innovative modular design, which enables maximum flexibility and adaptability in industrial applications. The broad portfolio allows us to meet your specific requirements and optimize your operations. Robust materials and precise workmanship ensure reliable performance, even under the most demanding conditions. Even at extreme temperatures from  $-40^{\circ}\text{C}$  to  $60^{\circ}\text{C}$ , you can rely on the Multi-Fix series.

## PROPERTIES



weight  
medium



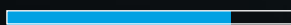
modularity  
high



temperature resistance  
 $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  (optional  $-40^{\circ}\text{C}$ )



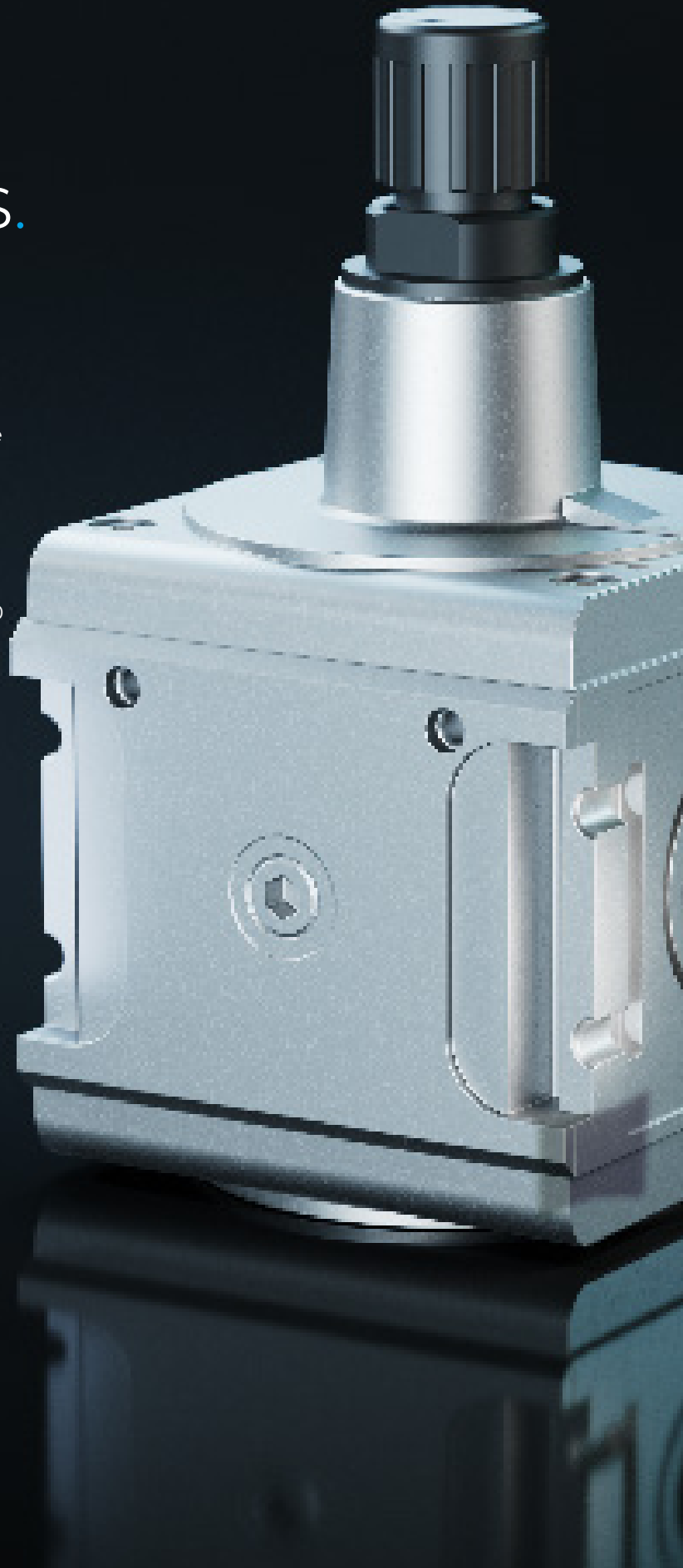
resistance capability  
high



connection sizes  
to G1"



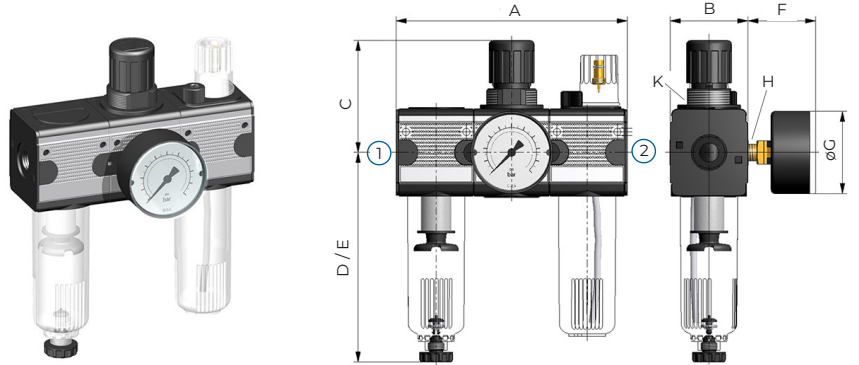
flow rate  
high



# Service 3 unit

## Technical data

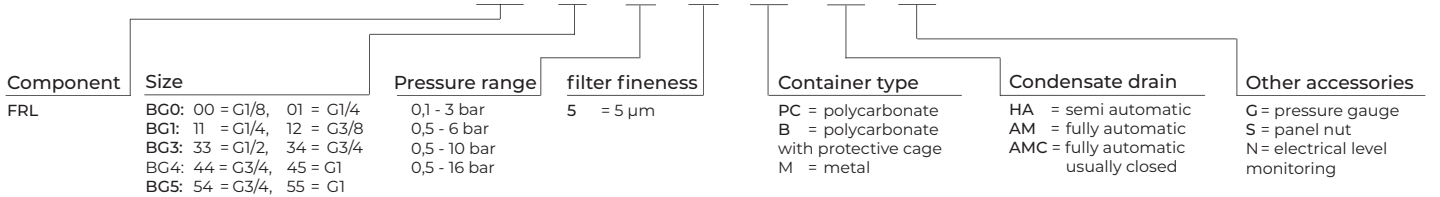
- Sintered filter, centrifugal principle; membrane pressure regulator with secondary venting; proportional lubricator
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BG0 = 12bar
- Installation position: vertical
- Filter fineness: 5 µm
- Condensate container: PC, PC with protective cage or metal container
- Condensate drain: semi-automatic drain (HA) or fully automatic (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Materials: Körper: Body: die-cast zinc, spring cover: POM, diaphragm and seals: NBR
- Oil dosing at qv=1000 l/min: 1-2 d/min
- Oil type: CL32 according to DIN 51517 - ISO VG32



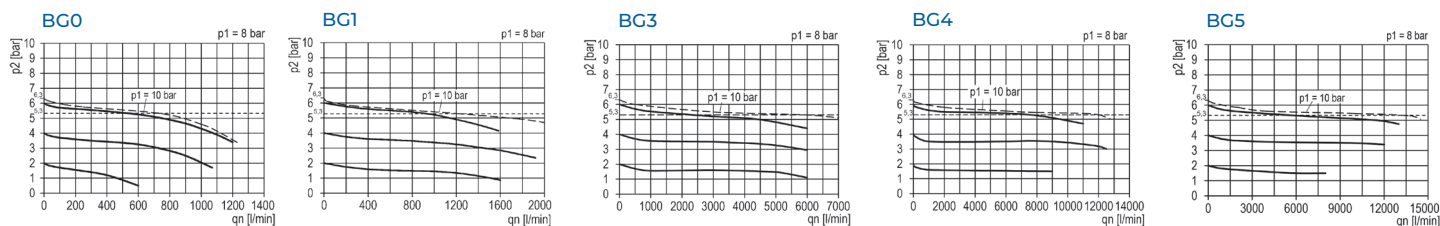
Symbol	Dimensions													
	Designation	Size	Connection thread	A	B	C	D (HA)	E (AM)	F	øG pressure gauge	H pressure gauge thread	Panel thread	internal air consumption	Flow P1=6bar; P2=6,3bar ΔP=1bar
	FRL.00 G	BG0	G 1/8"	120	40	60	103	141	36	ø40	G 1/8"	M30x1,5	-	750
	FRL.01 G	BG0	G 1/4"	120	40	60	103	141	36	ø40	G 1/8"	M30x1,5	-	750
	FRL.11 G	BG1	G 1/4"	138	46	67	125	140	40	ø50	G 1/4"	M30x1,5	-	1200
	FRL.12 G	BG1	G 3/8"	138	46	67	125	140	40	ø50	G 1/4"	M30x1,5	-	1200
	FRL.33 G	BG3	G 1/2"	201	69	99	147	162	40	ø50	G 1/4"	M50x1,5	-	5800
	FRL.34 G	BG3	G 3/4"	201	69	99	147	162	40	ø50	G 1/4"	M50x1,5	-	5800
	FRL.44	BG4	G 3/4"	255	89	125	190	205	42	ø63	G 1/4"	-	1,5 l/min	12000
	FRL.45	BG4	G 1"	255	89	125	190	205	42	ø63	G 1/4"	-	1,5 l/min	12000
	FRL.54 G	BG5	G 3/4"	300	103	128	254	268	42	ø63	G 1/4"	-	-	13500
	FRL.55 G	BG5	G 1"	300	103	128	254	268	42	ø63	G 1/4"	-	-	13500

## Designation

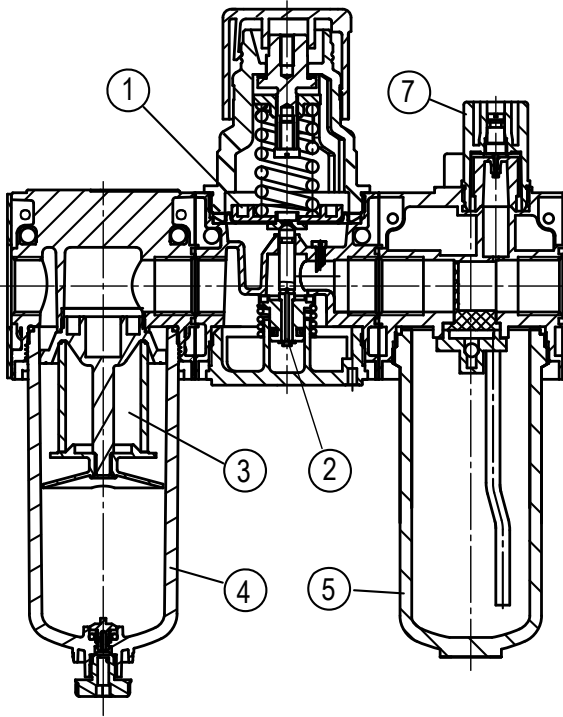
FRL . 11 - 10 - 5 - PC - HA - G



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1 2	Spare parts consisting of: membrane (1) valve cone (2) o-ring	brass-NBR-POM brass-NBR-PA6 NBR	0	ESA-R.00/RB.01	014366
			1	ESA-R/C.11	006109
			3	ESA-R/C.33	006111
			4	ESA-R/RI/C.45	045985
			5	ESA-C.55	011939
4	filter element 5 µm	cellpor	0 + 1	C.00-26	052187
			3	C.33-62	052188
			4	FE.4-560	032171
			5	C.55-24	047562
4	condensate bowl with semi automatic drain (HA) and o-ring	polycarbonate	0	C.00-PC-HA	011972
			1	C.11-PC-HA	005483
			3+5	C.33-PC-HA	001370
4	condensate bowl with fully automatic condensate drain (AM10) and o-ring	polycarbonate	0+1	C.11-PC-AM	004429
			3+5	C.33-PC-AM	026695
			4	BE.4-PC-B-AM	030304
4	condensate bowl with fully automatic condensate drain (AM10/NC) and o-ring	polycarbonate	0+1	C.11-AMC	024937
			3+5	C.33-AMC	032061
			4	BE.4-PC-B-AMC	030308
4	metal bowl with semi automatic drain (HA) and o-ring	metal	0	C.00-M-HA	012870
			1	C.11-H-HA	001227
			3	C.33-H-HA	001229
4	metal bowl with visual display, automatic drain(AM10) and o-ring	metal	0	C.00-M-AM	031836
			1	C.11-H-AM	001241
			3+5	C.33-H-AM	001251
4	metal bowl with visual display, fully automatic drain (AM10/NC) and o-ring	metal	0	C.00-M-AMC	033859
			1	C.11-H-AMC	032397
			3+5	C.33-H-AMC	048407
5	oil bowl with o-ring	polycarbonate	0	L.00-PC	013178
			1	L.11	004420
			3+5	L.33-PC	004421
5	metal oil bowl with o-ring	zinc-die casting	0	L.00-M	013179
			1	L.11-H	004436
			3+5	L.33-H	004437
6	bowl guard	metal	0	BC.00-45	014438
			1	C.11-45	021005
			3+5	C.33-45	017961
7	dome assembly polyamide	seals: NBR	1 - 5	L.33	005892
	metal dome assembly		1 - 5	L.33 H	006357

Accessories

Item no. Designation

012954 KP.00 coupling kit BG0  
 004909 KP.11 coupling kit BG1  
 004910 KP.33 coupling kit BG3  
 009537 KP.55 coupling kit BG5

052195 ZW.00-1 Mounting bracket (2x console with sliding wedge)  
 052196 ZW.11-1 Mounting bracket with 2 screws M4x50  
 052201 ZW.33-1 Mounting bracket with 2 screws M5x75  
 045984 ZW.45 Mounting bracket with 2 screws M6x12  
 009663 ZW.55 Mounting bracket with 2 screws M6x12

Item no. Designation

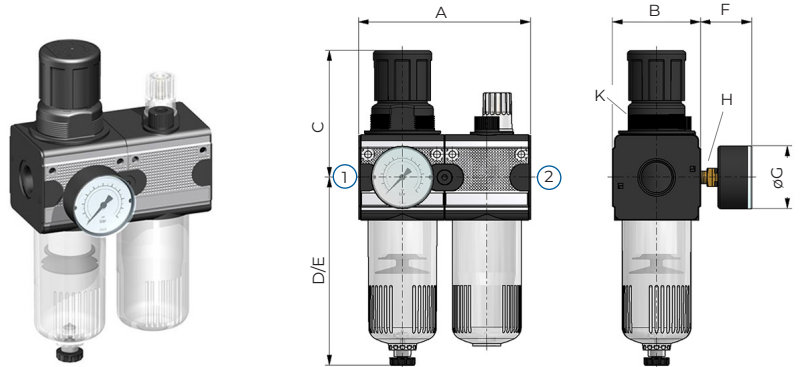
052194 MW.30 mounting bracket for panel mounting  
 012866 MW.50 mounting bracket for panel mounting

052193 MW.30/DR.00-34-2 mounting bracket with panel nut M30x1,5  
 008803 MW.50/C.33-42 mounting bracket with panel nut M50x1,5  
 049414 C.00-34 panel nut M30x1,5 KS  
 052012 DR.00-34-2 panel nut M30x1,5  
 052237 C.33-42 panel nut M36x1,5  
 052238 SM.2 panel nut M42x1,5

# Service 2 unit

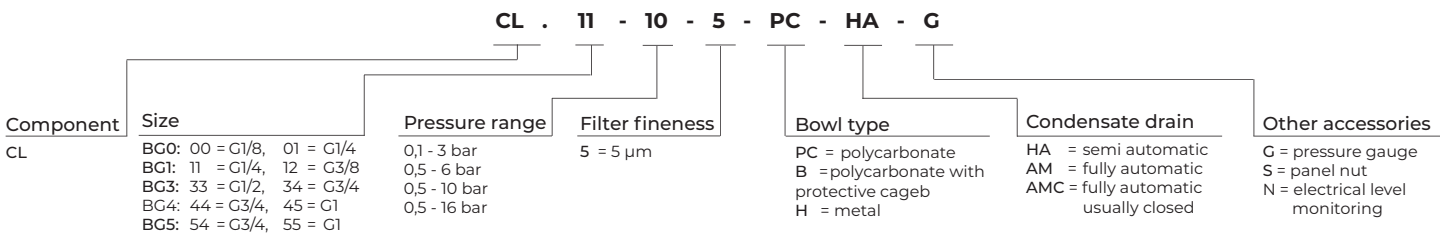
## Technical data

- Sintered filter, centrifugal principle; membrane pressure regulator with secondary venting; proportional lubricator
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BG0 = 12bar
- Installation position: vertical
- Filter fineness: 5 µm
- Condensate bowl: PC container; PC container with protective cage or metal container
- Condensate drain: Semi-automatic drain (HA) or fully automatic drain (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Materials: Body: die-cast zinc, spring cover: POM, diaphragm and seals: NBR
- Oil dosing at qv=1000 l/min: 1-2 d/min
- Oil type: CL32 nach DIN 51517 - ISO VG32

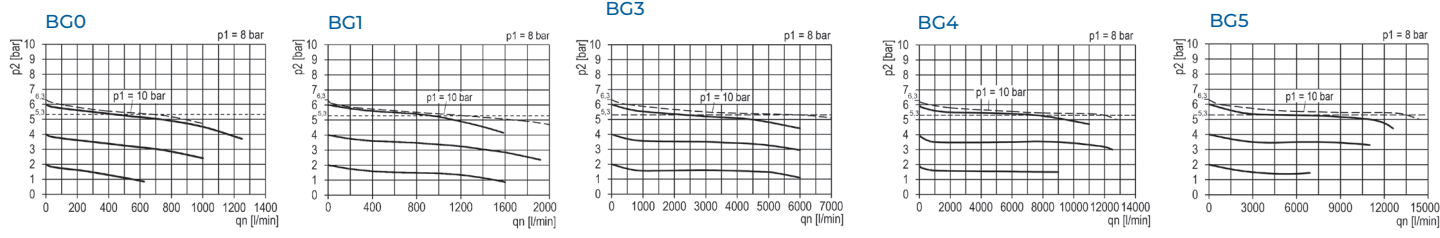


Symbol	Dimensions													
	Designation	Size	Connection thread	A	B	C	D (HA)	E (AM)	F	øG Pressure gauge	Pressure gauge thread	Panel thread	internal air consumption	Flow P1=6bar; P2=6,3bar ΔP=1bar
	CL.00 G	BG0	G 1/8"	80	40	60	103	141	36	ø40	G 1/8"	M30x1,5	-	750
	CL.01 G	BG0	G 1/4"	80	40	60	103	141	36	ø40	G 1/8"	M30x1,5	-	750
	CL.11 G	BG1	G 1/4"	93	46	67	125	140	40	ø50	G 1/4"	M30x1,5	-	1200
	CL.12 G	BG1	G 3/8"	93	46	67	125	140	40	ø50	G 1/4"	M30x1,5	-	1200
	CL.33 G	BG3	G 1/2"	135	69	99	147	162	40	ø50	G 1/4"	M50x1,5	-	5800
	CL.34 G	BG3	G 3/4"	135	69	99	147	162	40	ø50	G 1/4"	M50x1,5	-	5800
	CL.44	BG4	G 3/4"	170	89	125	190	205	42	ø63	G 1/4"	-	1,5 l/min	12000
	CL.45	BG4	G 1"	170	89	125	190	205	42	ø63	G 1/4"	-	1,5 l/min	12000
	CL.54 G	BG5	G 3/4"	200	103	128	254	268	42	ø63	G 1/4"	-	-	13500
	CL.55 G	BG5	G 1"	200	103	128	254	268	42	ø63	G 1/4"	-	-	13500

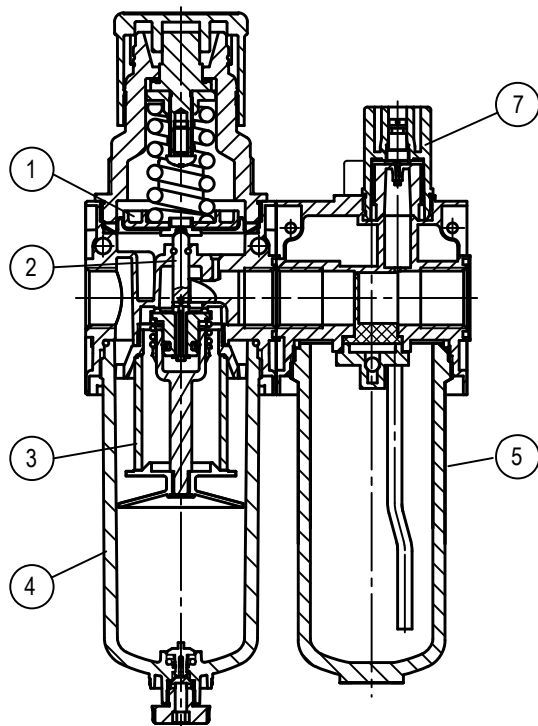
## Designation



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1 2	Spare parts consisting of: membrane (1) valve cone (2) o-ring	brass-NBR-POM brass-NBR-PA6 NBR	0	ESA-R.00/RB.01	014366
			1	ESA-R/C.11	006109
			3	ESA-R/C.33	006111
			4	ESA-R/RI/C.45	045985
			5	ESA-C.55	011939
4	filter element 5 µm	cellpor	0 + 1	C.00-26	052187
			3	C.33-62	052188
			4	FE.4-560	032171
			5	C.55-24	047562
4	condensate bowl with semi automatic drain (HA) and o-ring	polycarbonate	0	C.00-PC-HA	011972
			1	C.11-PC-HA	005483
			3+5	C.33-PC-HA	001370
			4	BE.4-PC-B-HA	030304
4	condensate bowl with fully automatic condensate drain (AM10) and o-ring	polycarbonate	0+1	C.11-PC-AM	004429
			3+5	C.33-PC-AM	026695
			4	BE.4-PC-B-AM	030304
4	condensate bowl with fully automatic condensate drain (AM10/NC) and o-ring	polycarbonate	0+1	C.11-AMC	024937
			3+5	C.33-AMC	032061
			4	BE.4-PC-B-AMC	030308
4	metal bowl with semi automatic drain (HA) and o-ring	metal	0	C.00-M-HA	012870
			1	C.11-H-HA	001227
			3	C.33-H-HA	001229
			4	BE.4-H-HA	033579
4	metal bowl with visual display, automatic drain(AM10) and o-ring	metal	0	C.00-M-AM	031836
			1	C.11-H-AM	001241
			3+5	C.33-H-AM	001251
			4	BE.4-HA-AM	033583
4	metal bowl with visual display, fully automatic drain (AM10/NC) and o-ring	metal	0	C.00-M-AMC	033859
			1	C.11-H-AMC	032397
			3+5	C.33-H-AMC	048407
			4	BE.4-HA-AMC	048407
5	oil bowl with o-ring	polycarbonate	0	L.00-PC	013178
			1	L.11	004420
			3+5	L.33-PC	004421
			4	BE.4-PC-B-c	046631
5	metal oil bowl with o-ring	zinc-die casting	0	L.00-M	013179
			1	L.11-H	004436
			3+5	L.33-H	004437
			4	BE.4-H-c	046632
6	bowl guard	metal	0	BC.00-45	014438
			1	C.11-45	021005
			3+5	C.33-45	017961
7	dome assembly polyamide	seals: NBR	1 - 5	L.33	005892
	metal dome assembly		1 - 5	L.33 H	006357

Accessories

Item no. Designation

012954	KP.00	coupling kit BG0
004909	KP.11	coupling kit BG1
004910	KP.33	coupling kit BG3
009537	KP.55	coupling kit BG5

052195	ZW.00-1	Mounting bracket (2x console with sliding wedge)
052196	ZW.11-1	Mounting bracket with 2 screws M4x50
052201	ZW.33-1	Mounting bracket with 2 screws M5x75
045984	ZW.45	Mounting bracket with 2 screws M6x12
009663	ZW.55	Mounting bracket with 2 screws M6x12

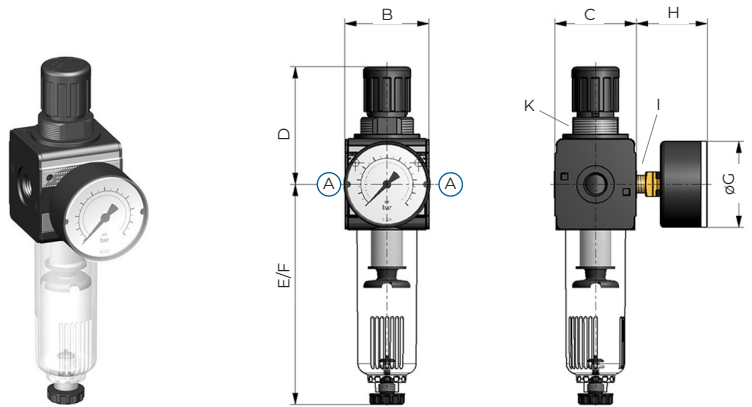
Item no. Designation

052194	MW.30	mounting bracket for panel mounting
012866	MW.50	mounting bracket for panel mounting
052193	MW.30/DR.00-34-2	mounting bracket with panel nut M30x1,5
008803	MW.50/C.33-42	mounting bracket with panel nut M50x1,5
049414	C.00-34	panel nut M30x1,5 KS
052012	DR.00-34-2	panel nut M30x1,5
052237	C.33-42	panel nut M36x1,5
052238	SM.2	panel nut M42x1,5

# Filter-regulator

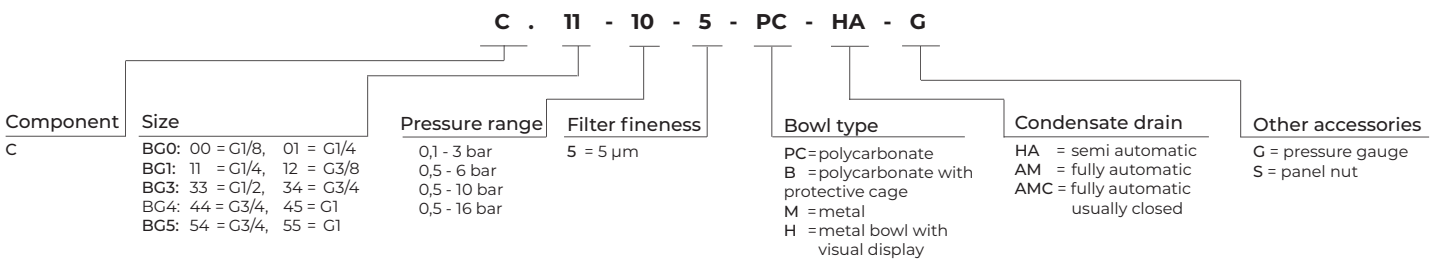
## Technical data

- Sintered filter, centrifugal principle; membrane pressure regulator with secondary venting
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BG0 = 12bar
- Installation position: vertical
- Filter fineness: 5 µm
- Condensate bowl: PC container; PC container with protective cage or metal container
- Condensate drain: Semi-automatic drain (HA) or fully automatic drain (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Werkstoffe: Körper: Zinkdruckguss, Federhaube: POM, Membrane und Dichtungen: NBR,

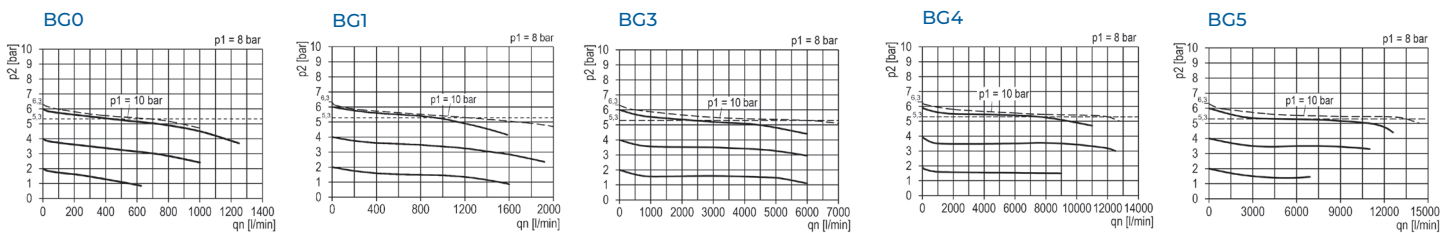


Symbol	Dimensions													
	Designation	Size	Connection thread	A	B	C	D (HA)	E (AM)	F	øG Pressure gauge	Pressure gauge thread	Panel thread	Internal air consumption	Flow P1=6bar; P2=6,3bar ΔP=1bar
	C.00 G	BG0	G 1/8"	40	40	60	103	141	36	ø40	G 1/8"	M30x1,5	-	750
	C.01 G	BG0	G 1/4"	40	40	60	103	141	36	ø40	G 1/8"	M30x1,5	-	750
	C.11 G	BG1	G 1/4"	48	46	67	125	140	40	ø50	G 1/4"	M30x1,5	-	1200
	C.12 G	BG1	G 3/8"	48	46	67	125	140	40	ø50	G 1/4"	M30x1,5	-	1200
	C.33 G	BG3	G 1/2"	69	69	99	147	162	40	ø50	G 1/4"	M50x1,5	-	5800
	C.34 G	BG3	G 3/4"	69	69	99	147	162	40	ø50	G 1/4"	M50x1,5	-	5800
	C.44	BG4	G 3/4"	85	89	125	190	205	42	ø63	G 1/4"	-	1,5 l/min	12000
	C.45	BG4	G 1"	85	89	125	190	205	42	ø63	G 1/4"	-	1,5 l/min	12000
	C.54 G	BG5	G 3/4"	100	103	128	254	268	42	ø63	G 1/4"	-	-	13500
	C.55 G	BG5	G 1"	100	103	128	254	268	42	ø63	G 1/4"	-	-	13500

## Designation



## Flow chart



Cross - sectional view / spare parts		Pos.	Designation	Material	Size	Article type	Item no.
	<b>1</b> <b>2</b>	Spare parts consisting of: membrane (1) valve cone (2) o-ring	brass-NBR-POM brass-NBR-PA6 NBR	0	ESA-R.00/RB.01	014366	
				1	ESA-R/C.11	006109	
				3	ESA-R/C.33	006111	
				4	ESA-R/RI/C.45	045985	
				5	ESA-C.55	011939	
	<b>4</b>	filter element 5 µm	cellpor	0 + 1	C.00-26	052187	
				3	C.33-62	052188	
				4	FE.4-560	032171	
				5	C.55-24	047562	
	<b>4</b>	condensate bowl with semi automatic drain (HA) and o-ring	polycarbonate	0	C.00-PC-HA	011972	
1				C.11-PC-HA	005483		
3+5				C.33-PC-HA	001370		
<b>4</b>	condensate bowl with fully automatic condensate drain (AM10) and o-ring	polycarbonate	0+1	C.11-PC-AM	004429		
			3+5	C.33-PC-AM	026695		
			4	BE.4-PC-B-AM	030304		
<b>4</b>	condensate bowl with fully automatic condensate drain (AM10/NC) and o-ring	polycarbonate	0+1	C.11-AMC	024937		
			3+5	C.33-AMC	032061		
			4	BE.4-PC-B-AMC	030308		
<b>4</b>	metal bowl with semi automatic drain (HA) and o-ring	metal	0	C.00-M-HA	012870		
			1	C.11-H-HA	001227		
			3	C.33-H-HA	001229		
			4	BE.4-H-HA	033579		
<b>4</b>	metal bowl with visual display, automatic drain(AM10) and o-ring	metal	0	C.00-M-AM	031836		
			1	C.11-H-AM	001241		
			3+5	C.33-H-AM	001251		
			4	BE.4-HA-AM	033583		
<b>4</b>	metal bowl with visual display, fully automatic drain (AM10/NC) and o-ring	metal	0	C.00-M-AMC	033859		
			1	C.11-H-AMC	032397		
			3+5	C.33-H-AMC	048407		
			4	BE.4-HA-AMC	048407		
<b>5</b>	o-ring 30x2 o-ring 50x2 o-ring 55x2,5	NBR	0+1	-	-		
			3+5	-	-		
			4	-	-		
<b>6</b>	bowl guard	metal	0	BC.00-45	014438		
			1	C.11-45	021005		
			3+5	C.33-45	017961		

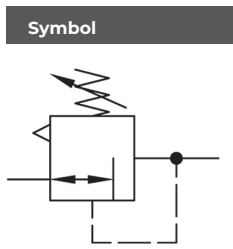
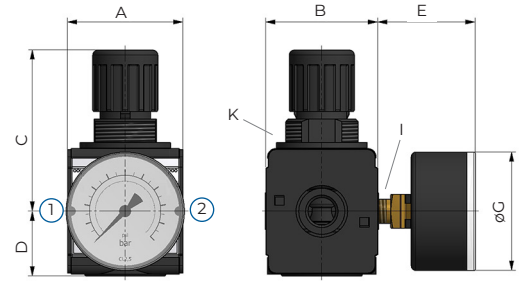
**Accessories**

Item no.	Designation	Item no.	Designation
012954	KP.00	052194	MW.30
004909	KP.11	012866	MW.50
004910	KP.33	052193	MW.30/DR.00-34-2
009537	KP.55	008803	MW.50/C.33-42
052195	ZW.00-1	049414	C.00-34
052196	ZW.11-1	052012	DR.00-34-2
052201	ZW.33-1	052237	C.33-42
045984	ZW.45	052238	SM.2
009663	ZW.55		

# Pressure regulator

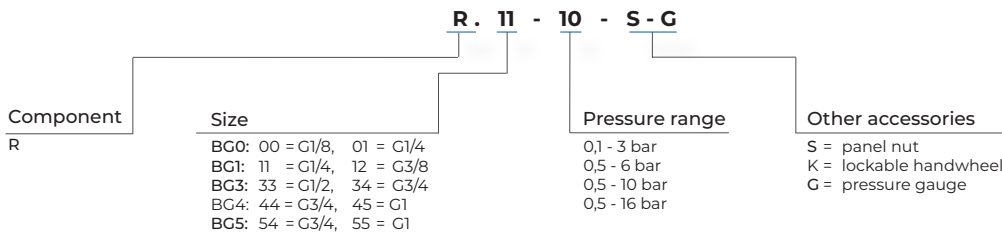
## Technical data

- membrane pressure regulator with secondary venting
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Materials: Body: die-cast zinc; spring cover: POM; diaphragm and seals: NBR

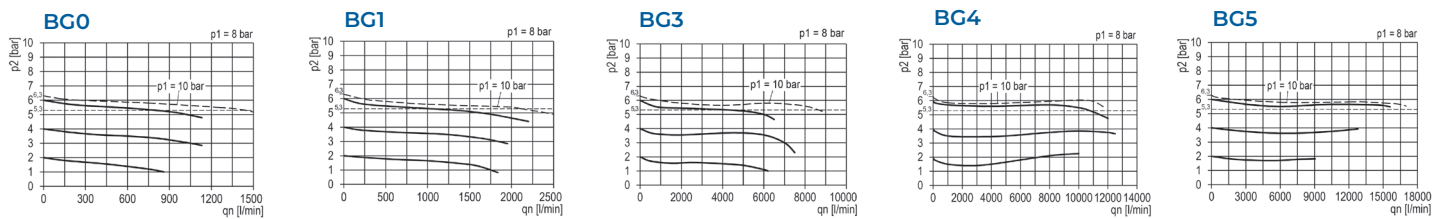


Dimensions		Designation	Size	Connection thread	A	B	C	D	E	øG Pressure gauge	I Pressure gauge thread	K Panel thread	Internal air consumption	Flow P1=6bar; P2=6,3bar ΔP=1bar
Symbol	Dimensions													
		R.00 G	BG0	G 1/8"	40	40	60	103	36	ø40	G 1/8"	M30x1,5	-	1100
		R.01 G	BG0	G 1/4"	40	40	60	103	36	ø40	G 1/8"	M30x1,5	-	1100
		R.11 G	BG1	G 1/4"	48	46	67	125	40	ø50	G 1/4"	M30x1,5	-	1500
		R.12 G	BG1	G 3/8"	48	46	67	125	40	ø50	G 1/4"	M30x1,5	-	1500
		R.33 G	BG3	G 1/2"	69	69	99	147	40	ø50	G 1/4"	M50x1,5	-	3500
		R.34 G	BG3	G 3/4"	69	69	99	147	40	ø50	G 1/4"	M50x1,5	-	3500
		R.44	BG4	G 3/4"	85	89	125	190	42	ø63	G 1/4"	-	1,5 l/min	12000
		R.45	BG4	G 1"	85	89	125	190	42	ø63	G 1/4"	-	1,5 l/min	12000
		R.54 G	BG5	G 3/4"	100	103	128	254	42	ø63	G 1/4"	-	-	12000
		R.55 G	BG5	G 1"	100	103	128	254	42	ø63	G 1/4"	-	-	12000

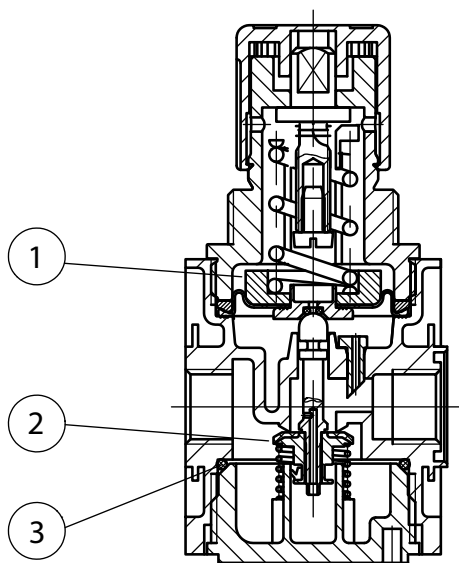
## Designation



## Flow chart



Cross - sectional view / spare parts



Pos.	Benennung	Werkstoff	BG	Artikel-Typ	Artikel-Nr.
			0	ESA-R.00/RB.01	014366
1	Spare parts consisting of: membrane (1) valve cone (2) o-ring	brass-NBR-POM brass-NBR-PA6 NBR	1	ESA-R/C.11	006109
2			3	ESA-R/C.33	006111
			4	ESA-R/R/C.45	045985
			5	ESA-C.55	011939

Accessories

**Item no. Designation**

012954	KP.00	coupling kit BG0
004909	KP.11	coupling kit BG1
004910	KP.33	coupling kit BG3
009537	KP.55	coupling kit BG5
052195	ZW.00-1	Mounting bracket (2x console with sliding wedge)
052196	ZW.11-1	Mounting bracket with 2 screws M4x50
052201	ZW.33-1	Mounting bracket with 2 screws M5x75
045984	ZW.45	Mounting bracket with 2 screws M6x12
009663	ZW.55	Mounting bracket with 2 screws M6x12

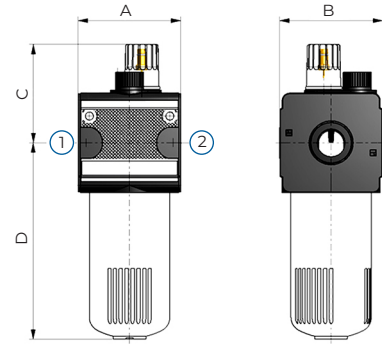
**Item no. Designation**

052194	MW.30	mounting bracket for panel mounting
012866	MW.50	mounting bracket for panel mounting
052193	MW.30/DR.00-34-2	mounting bracket with panel nut M30x1,5
008803	MW.50/C.33-42	mounting bracket with panel nut M50x1,5
049414	C.00-34	panel nut M30x1,5 KS
052012	DR.00-34-2	panel nut M30x1,5
052237	C.33-42	panel nut M36x1,5
052238	SM.2	panel nut M42x1,5

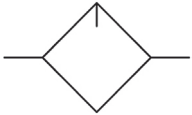
# Lubricator

## Technical data

- proportional lubricator
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Condensate bowl: PC container; PC container with protective cage or metal container
- Oil dosing at  $q_v=1000$  l/min: 1-2 d/min
- Oil type: CL32 nach DIN 51517 - ISO VG32
- Tropfaufsatz: PC/PA
- Materials: Body: die-cast zinc



## Symbol

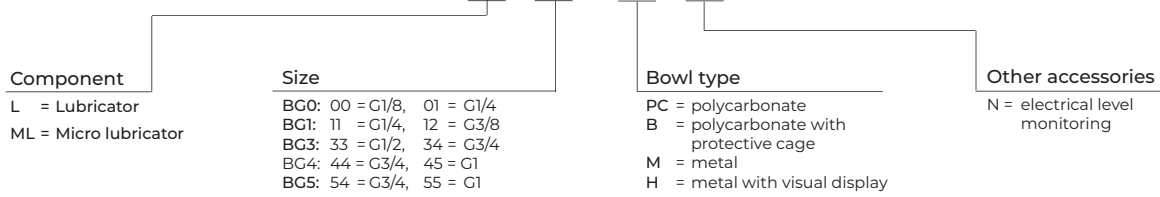


## Dimensions

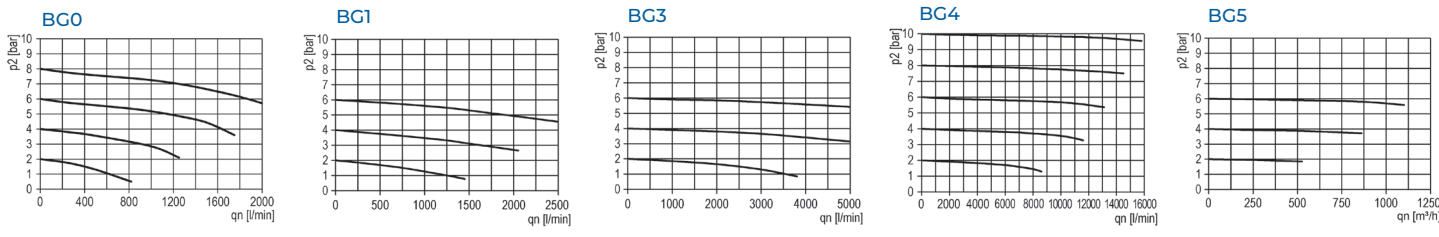
Designation	Size	Connection thread	A	B	C	D	Flow P1=6bar; P2=6,3bar ΔP=1bar
L.00	BG0	G 1/8"	40	40	50	96	1000
L.01	BG0	G 1/4"	40	40	50	96	1000
ML.11	BG1	G 1/4"	48	46	58	110	1500
L.11	BG1	G 1/4"	48	46	58	110	1900
L.12	BG1	G 3/8"	48	46	58	110	1900
ML.33	BG3	G 1/2"	69	69	66	132	4700
L.33	BG3	G 1/2"	69	69	66	132	5000
L.34	BG3	G 3/4"	69	69	66	132	5000
L.44	BG4	G 3/4"	85	89	86	182	14000
L.45	BG4	G 1"	85	89	86	185	14000
L.54	BG5	G 3/4"	100	103	85	237	18000
L.55	BG5	G 1"	100	103	85	237	18000

## Designation

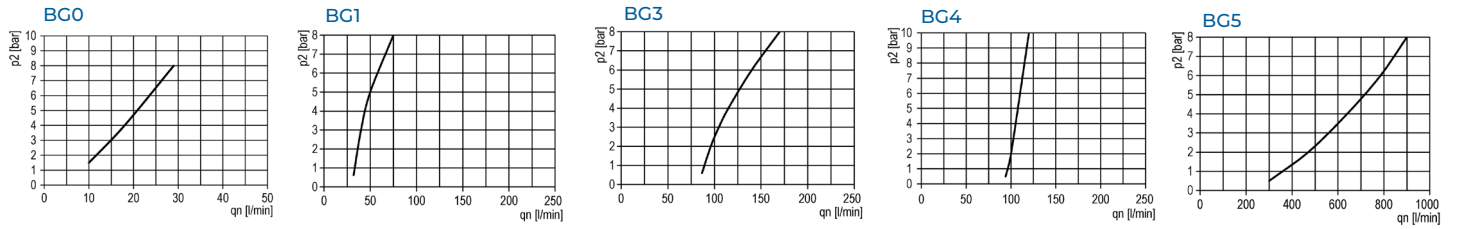
L . 11 - PC - N



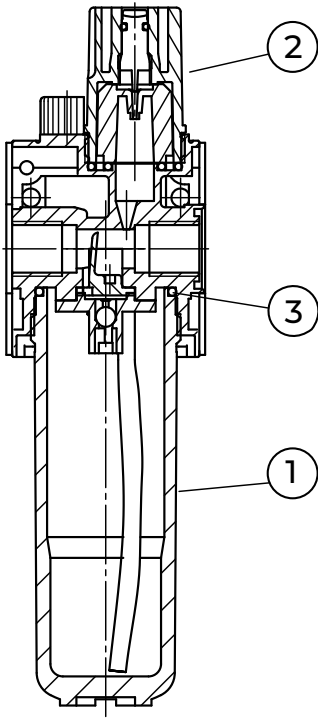
## Flow chart



Oiler response limit



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	oil bowl with o-ring (3)	polycarbonate	0	L.00-PC	013178
			1	L.11	004420
			3+5	L.33-PC	004421
			4	BE.4-PC-B-c	046631
1	metal oil bowl with o-ring (3)	zinc-die casting	0	L.00-M	013179
			1	L.11-H	004436
			3+5	L.33-H	004437
			4	BE.4-H-c	046632
2	bowl guard	metal	0	BC.00-45	014438
			1	C.11-45	021005
			3+5	C.33-45	017961
2	dome assembly polyamide	polycarbonate seals: NBR	0	ESA.0-1312	054979
	metal dome assembly		1 - 4	ESA.1-1312	027942
			0 - 5	L.33-H	006357
3	o-ring 30x2	NBR	0 - 1	DF.00-2	008894
	o-ring 50x2		3 - 5	C.33-23	008895

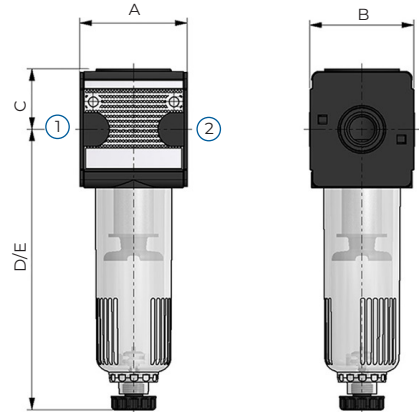
Accessories

Item no.	Designation	Item no.	Designation
012954	KP.00 coupling kit BG0	052195	ZW.00-1 Mounting bracket (2x console with sliding wedge)
004909	KP.11 coupling kit BG1	052196	ZW.11-1 Mounting bracket with 2 screws M4x50
004910	KP.33 coupling kit BG3	052201	ZW.33-1 Mounting bracket with 2 screws M5x75
009537	KP.55 coupling kit BG5	045984	ZW.45 Mounting bracket with 2 screws M6x12
		009663	ZW.55 Mounting bracket with 2 screws M6x12

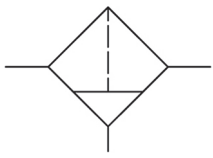
# Filter

## Technical data

- Sintered filter, centrifugal principle
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BG0 = 12bar
- Installation position: vertical
- Filter fineness: 5 µm
- Condensate bowl: PC container; PC container with protective cage or metal container
- Condensate drain: Semi-automatic drain (HA) or fully automatic drain (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Materials: Body: die-cast zinc, spring cover: POM, diaphragm and seals: NBR



## Symbol



## Dimensions

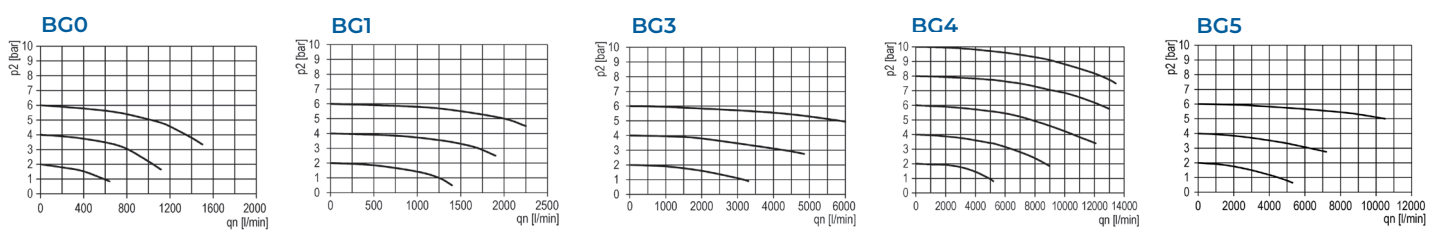
Designation	Size	Connection thread	A	B	C	D (HA)	E (AM)	Internal air consumption	Flow P1=6bar; P2=6,3bar ΔP=1bar
F.00	BG0	G 1/8"	40	40	12	103	141	-	1000
F.01	BG0	G 1/4"	40	40	12	103	141	-	1000
F.11	BG1	G 1/4"	48	46	27	125	140	-	2100
F.12	BG1	G 3/8"	48	46	27	125	140	-	2100
F.33	BG3	G 1/2"	69	69	35	147	162	-	4000
F.34	BG3	G 3/4"	69	69	35	147	162	-	4000
F.44	BG4	G 3/4"	85	89	53	190	205	1,5 l/min	8000
F.45	BG4	G 1"	85	89	53	190	205	1,5 l/min	8000
F.54	BG5	G 3/4"	100	103	52	254	268	-	8000
F.55	BG5	G 1"	100	103	52	254	268	-	8000

## Designation

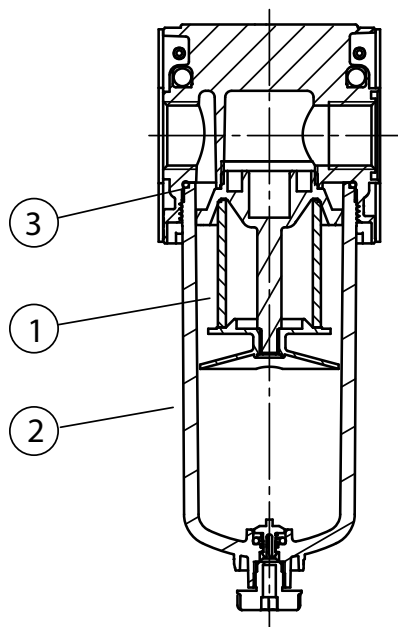
F . 11 - 5 - PC - HA



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	filter element 5 µm	cellpor	0 + 1	C.00-26	052187
			3	C.33-62	052188
			4	FE.4-560	032171
			5	C.55-24	047562
2	condensate bowl with semi automatic drain (HA) and o-ring (3)	polycarbonate	0	C.00-PC-HA	011972
			1	C.11-PC-HA	005483
			3+5	C.33-PC-HA	001370
2	condensate bowl with fully automatic condensate drain (AM10) and o-ring (3)	polycarbonate	4	BE.4-PC-B-HA	030304
			0+1	C.11-PC-AM	004429
			3+5	C.33-PC-AM	026695
2	condensate bowl with fully automatic condensate drain (AM10) and o-ring (3)	polycarbonate	4	BE.4-PC-B-AM	030304
			0+1	C.11-AMC	024937
			3+5	C.33-AMC	032061
2	metal bowl with semi automatic drain (HA) and o-ring (3)	metal	4	BE.4-PC-B-AMC	030308
			0	C.00-M-HA	012870
			1	C.11-H-HA	001227
2	metal bowl with visual display, automatic drain (AM10) and o-ring (3)	metal	3+5	C.33-H-HA	001229
			4	BE.4-H-HA	033579
			0	C.00-M-AM	031836
2	metal bowl with visual display, fully automatic drain (AM10/NC) and o-ring (3)	metal	1	C.11-H-AM	001241
			3+5	C.33-H-AM	001251
			4	BE.4-HA-AM	033583
2	metal bowl with visual display, fully automatic drain (AM10/NC) and o-ring (3)	metal	0	C.00-M-AMC	033859
			1	C.11-H-AMC	032397
			3+5	C.33-H-AMC	048407
2	bowl guard	metal	4	BE.4-HA-AMC	033586
			0	BC.00-45	014438
			1	C.11-45	021005
3	o-ring 30x2	NBR	3+5	C.33-45	017961
			0 + 1	DF.00-2	-
			3+5	C.33-23	-
3	o-ring 50x2	NBR	4	OR-0-9	-
			o-ring 55x2.5		

Accessories

Item no. Designation

012954	KP.00	coupling kit BG0
004909	KP.11	coupling kit BG1
004910	KP.33	coupling kit BG3
009537	KP.55	coupling kit BG5

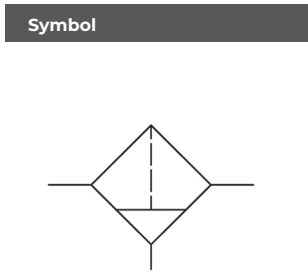
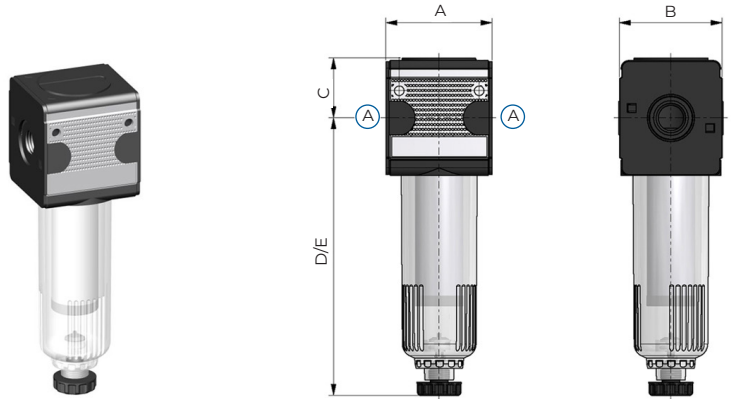
Item no. Designation

052195	ZW.00-1	Mounting bracket (2x console with sliding wedge)
052196	ZW.11-1	Mounting bracket with 2 screws M4x50
052201	ZW.33-1	Mounting bracket with 2 screws M5x75
045984	ZW.45	Mounting bracket with 2 screws M6x12
009663	ZW.55	Mounting bracket with 2 screws M6x12

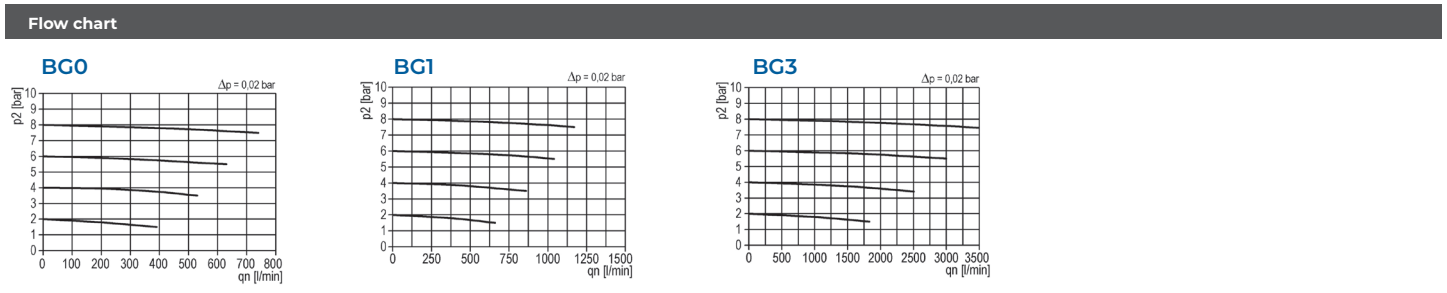
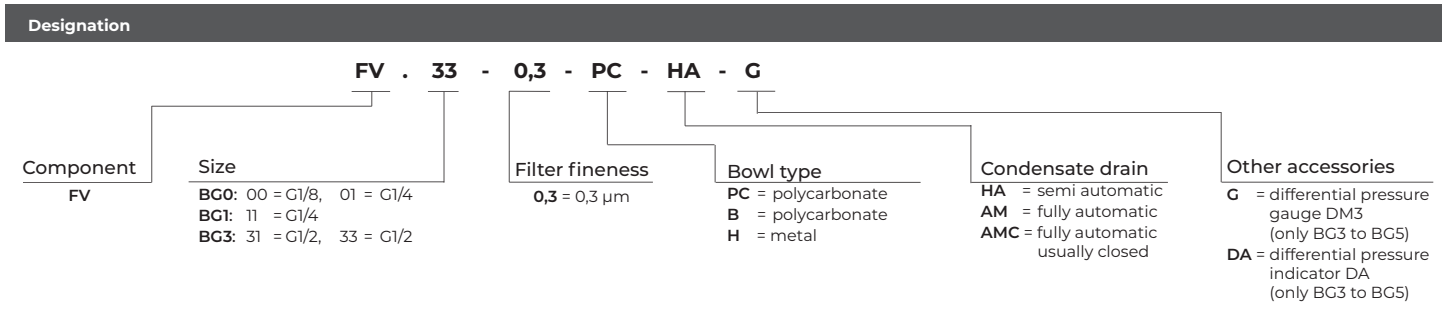
# Finefilter

## Technical data

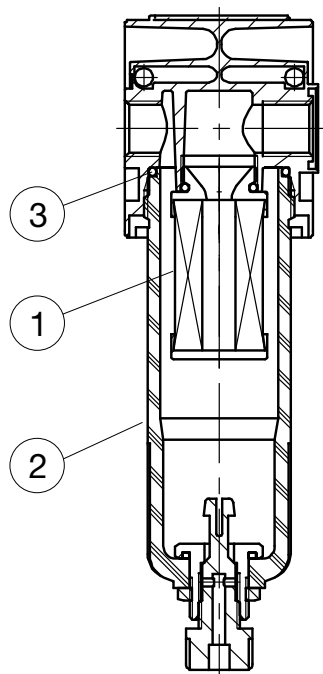
- Pre-filter, centrifugal principle
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BGO = 12bar
- Installation position: vertical
- Filter fineness: 0,3 µm
- Dust separation: 99,999 %
- Condensate bowl: PC container; PC container with protective cage or metal container
- Condensate drain: Semi-automatic drain (HA) or fully automatic drain (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Materials: Body: die-cast zinc, diaphragm and seals: NBR



Symbol		Dimensions								Internal air consumption	Flow P1=6bar; P2=6,3bar ΔP=1bar
Designation	Size	Connection thread	A	B	C	D (HA)	E (AM)				
FV.00	BG0	G 1/8"	40	40	12	103	141	-	130		
FV.01	BG0	G 1/4"	40	40	12	125	-	-	130		
FV.11	BG1	G 1/4"	48	46	27	125	140	-	160		
FV.31	BG3	G 1/2"	69	69	35	147	162	-	350		
FV.33	BG3	G 3/4"	69	69	35	147	162	-	500		
FV.44	BG4	G 3/4"	85	89	58	190	205	1,5 l/min	8000		
FV.45	BG4	G 1"	85	89	53	190	205	1,5 l/min	8000		
FV.54	BG5	G 3/4"	100	103	52	254	268	-	8000		
FV.55	BG5	G 1"	100	103	52	254	268	-	8000		



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	pre filter element 0,3 µm with o-ring	Paper - POM	0	V 23/35	030405
			1	V 23/40	010457
			3	V 38/60	037184
2	condensate bowl with semi automatic drain (HA) and o-ring (3)	polycarbonate	0	C.00-PC-HA	011972
			1	C.11-PC-HA	005483
			3	C.33-PC-HA	001370
2	condensate bowl with fully automatic condensate drain (AM10) and o-ring (3)	polycarbonate	0+1	C.11-PC-AM	004429
			3	C.33-PC-AM	026695
2	condensate bowl with fully automatic condensate drain (AM10/NC) and o-ring (3)	polycarbonate	0+1	C.11-AMC	024937
			3	C.33-AMC	032061
2	metal bowl with semi automatic drain (HA) and o-ring (3)	metal	0	C.00-M-HA	012870
			1	C.11-H-HA	001227
			3	C.33-H-HA	001229
2	metal bowl with visual display, automatic drain(AM10) and o-ring (3)	metal	0	C.00-M-AM	031836
			1	C.11-H-AM	001241
			3	C.33-H-AM	001251
2	metal bowl with visual display, fully automatic drain (AM10/NC) and o-ring (3)	metal	0	C.00-M-AMC	033859
			1	C.11-H-AMC	032397
			3	C.33-H-AMC	048407
2	bowl guard	metal	0	BC.00-45	014438
			1	C.11-45	021005
			3	C.33-45	017961
3	O-Ring 30x2	NBR	0+1	-	-
	O-Ring 50x2		3+5	-	-

Accessories

Item no.	Designation
012954	KP.00
004909	KP.11
004910	KP.33
009537	KP.55

coupling kit BG0  
coupling kit BG1  
coupling kit BG3  
coupling kit BG5

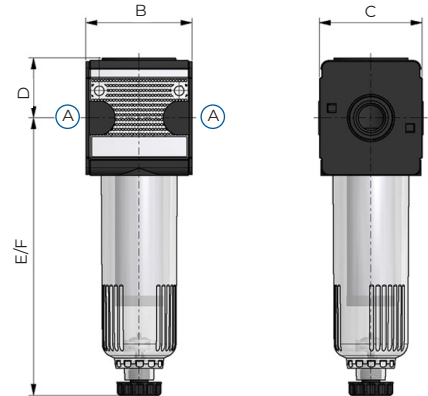
Item no.	Designation
052195	ZW.00-1
052196	ZW.11-1
052201	ZW.33-1
045984	ZW.45
009663	ZW.55

Mounting bracket (2x console with sliding wedge)  
Mounting bracket with 2 screws M4x50  
Mounting bracket with 2 screws M5x75  
Mounting bracket with 2 screws M6x12  
Mounting bracket with 2 screws M6x12

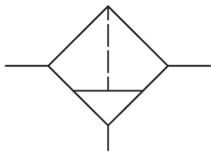
# Finefilter

## Technical data

- Fine filter
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BGO = 12bar
- Installation position: senkrecht
- Filter fineness: 0,01 µm
- Dust separation: 99,999 %
- Residual oil content: 0,01 mg/m<sup>3</sup>
- Condensate bowl: PC container; PC container with protective cage or metal container
- Condensate drain: Semi-automatic drain (HA) or fully automatic drain (AM)  
AM: valve open when pressureless  
AMC: valve closed when pressureless
- Materials: Body: die-cast zinc, spring cover: POM, diaphragm and seals: NBR
- Fixing: 2 holes in the body or bracket



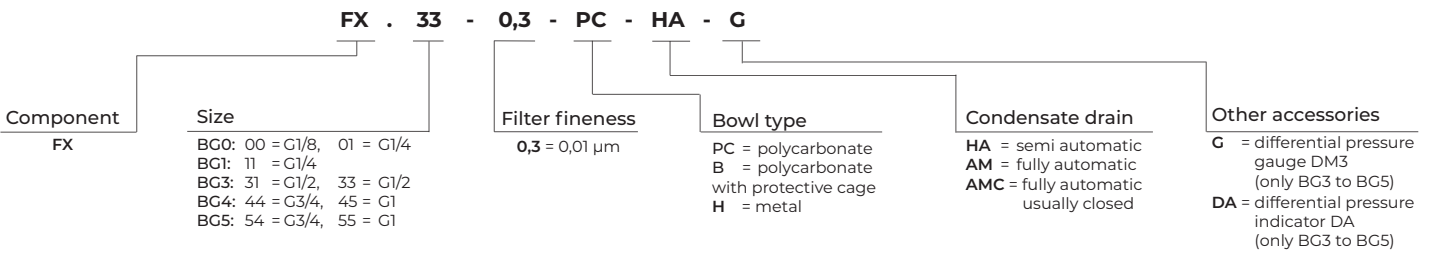
## Symbol



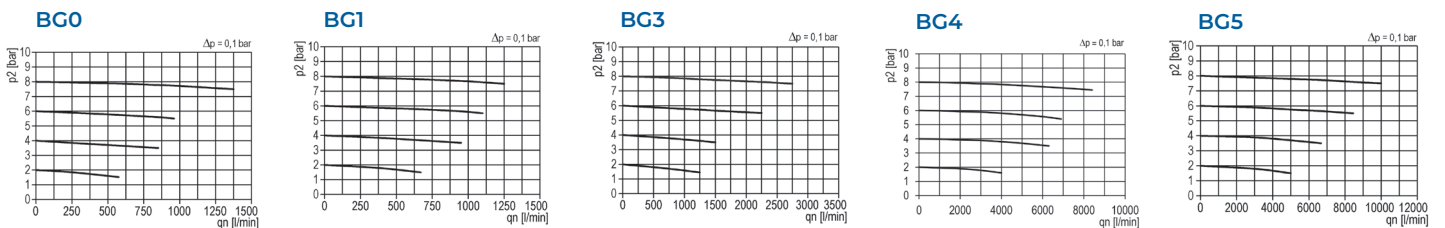
## Dimensions

Designation	Size	Connection thread	A	B	C	D (HA)	E (AM)	Internal air consumption	Flow P1=6bar; P2=6,3bar ΔP=0,1bar
FX.00	BG0	G 1/8"	40	40	12	103	141	-	130
FX.01	BG0	G 1/4"	40	40	12	103	141	-	130
FX.11	BG1	G 1/4"	48	46	27	125	140	-	160
FX.33	BG3	G 1/2"	69	69	35	147	162	-	350
FX.44	BG4	G 3/4"	85	89	53	190	205	1,5 l/min	350
FX.45	BG4	G 1"	85	89	53	190	205	1,5 l/min	350
FX.54	BG5	G 3/4"	100	103	52	254	268	-	500
FX.55	BG5	G 1"	100	103	52	254	268	-	500

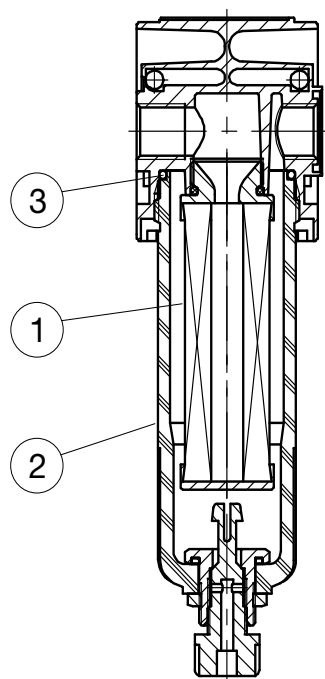
## Designation



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	Fine filter element 0,01 µm with o-ring	borsilicate - Al	0	X 23/60	013005
			1	X 23/70	016461
			3	X 38/60	012495
2	condensate bowl with semi automatic drain (HA) and o-ring (3)	polycarbonate	0	C.00-PC-HA	011972
			1	C.11-PC-HA	005483
			3	C.33-PC-HA	001370
2	condensate bowl with fully automatic condensate drain (AM10) and o-ring (3)	polycarbonate	0+1	C.11-PC-AM	004429
			3	C.33-PC-AM	026695
2	condensate bowl with fully automatic condensate drain (AM10/NC) and o-ring (3)	polycarbonate	0+1	C.11-AMC	024937
			3	C.33-AMC	032061
2	metal bowl with semi automatic drain (HA) and o-ring (3)	metal	0	C.00-M-HA	012870
			1	C.11-H-HA	001227
			3	C.33-H-HA	001229
2	metal bowl with visual display, automatic drain(AM10) and o-ring (3)	metal	0	C.00-M-AM	031836
			1	C.11-H-AM	001241
			3	C.33-H-AM	001251
2	metal bowl with visual display, fully automatic drain (AM10/NC) and o-ring (3)	metal	0	C.00-M-AMC	033859
			1	C.11-H-AMC	032397
			3	C.33-H-AMC	048407
2	bowl guard	metal	0	BC.00-45	014438
			1	C.11-45	021005
			3	C.33-45	017961
3	o-ring 30x2	NBR	0 + 1	-	-
			3+5	-	-

Accessories

Item no. Designation

012954	KP.00	coupling kit BG0
004909	KP.11	coupling kit BG1
004910	KP.33	coupling kit BG3
009537	KP.55	coupling kit BG5

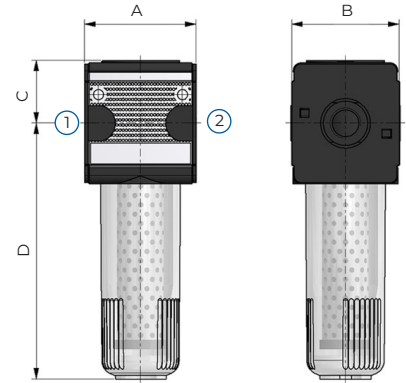
Item no. Designation

052195	ZW.00-1	Mounting bracket (2x console with sliding wedge)
052196	ZW.11-1	Mounting bracket with 2 screws M4x50
052201	ZW.33-1	Mounting bracket with 2 screws M5x75
045984	ZW.45	Mounting bracket with 2 screws M6x12
009663	ZW.55	Mounting bracket with 2 screws M6x12

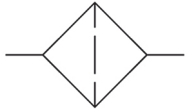
# Activated carbon filter

## Technical data

- Activated carbon filter
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 0 bar
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Residual oil content: 0,005 mg/m<sup>3</sup>
- Condensate bowl: PC container; PC container with protective cage or metal container
- Materials: Body: die-cast zinc, spring cover: POM, diaphragm and seals: NBR
- Fixing: 2 holes in the body or bracket



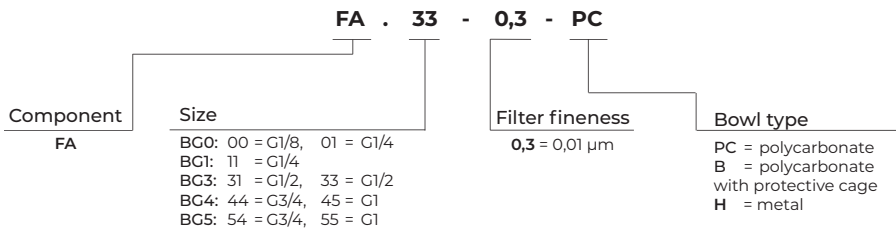
## Symbol



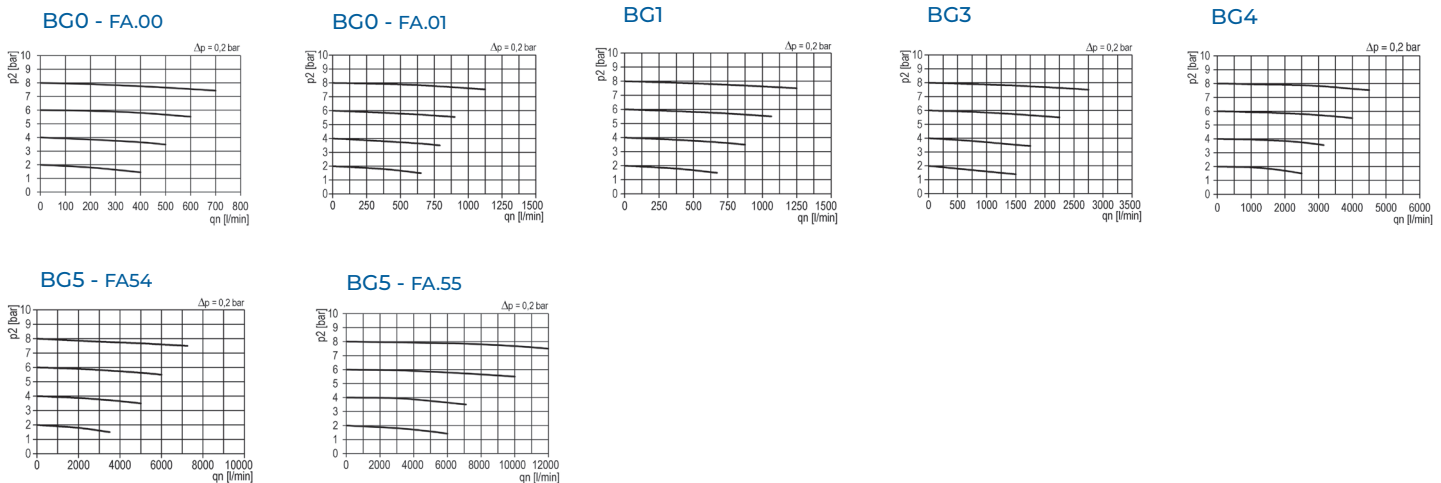
## Dimensions

Designation	Size	Connection thread	A	B	C	D	Internal air consumption	Flow P1=6bar; P2=6,3bar ΔP=0,1bar
FA.00	BG0	G 1/8"	40	40	12	96	-	310
FA.01	BG0	G 1/4"	40	40	12	110	-	380
FA.11	BG1	G 1/4"	48	46	27	110	-	380
FA.33	BG3	G 1/2"	69	69	35	132	-	1500
FA.44	BG4	G 3/4"	85	89	53	183	1,5 l/min	2500
FA.45	BG4	G 1"	85	89	53	183	1,5 l/min	2500
FA.54 M	BG5	G 3/4"	100	103	52	226	-	3000
FA.55 M	BG5	G 1"	100	103	52	326	-	5500

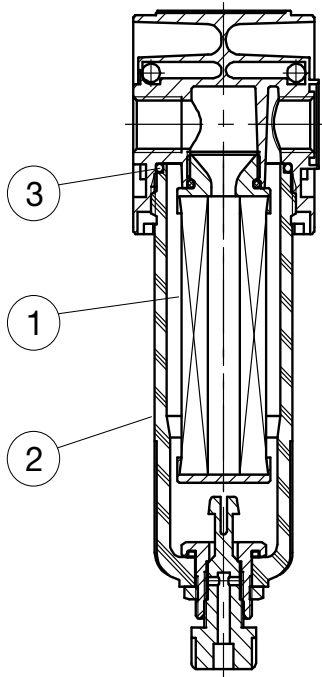
## Designation



## Durchflussdiagramm



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	activated carbon filter element with o-ring	borsilicate - Al	0	A 23/60	042789
			0 + 1	A 23/80	014078
			1	A 23/70	010335
			3	A 38/90	004416
			3	A 38/185	012487
2	closed polycarbonate bowl with o-ring (3)	polycarbonate	0	L.00-PC	013178
			1	L.11	004436
			3	L.33	004421
2	metal bowl with o-ring (3)	metal	0	L.00-M	013179
			1	L.11-M	006265
			3	L.33-M	001438
			3	L.33 M/240	012523
2	bowl guard	metal	0	BC.00-45	014438
			1	C.11-45	021005
			3	C.33-45	017961
3	o-ring 30x2	NBR	0 + 1	-	-
	o-ring 50x2		3+5	-	-

Accessories

Item no.	Designation	Item no.	Designation
012954	KP.00	052195	ZW.00-1
004909	KP.11	052196	ZW.11-1
004910	KP.33	052201	ZW.33-1
009537	KP.55	045984	ZW.45
		009663	ZW.55

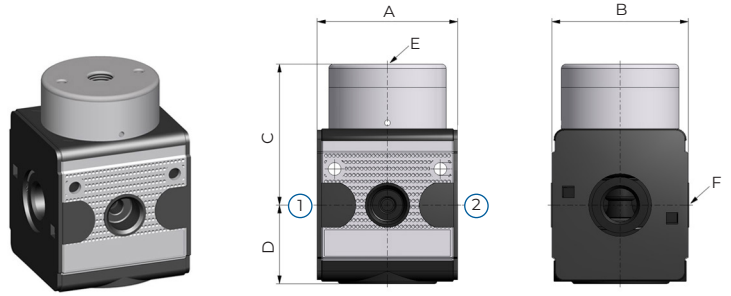
coupling kit BG0  
coupling kit BG1  
coupling kit BG3  
coupling kit BG5

Mounting bracket (2x console with sliding wedge)  
Mounting bracket with 2 screws M4x50  
Mounting bracket with 2 screws M5x75  
Mounting bracket with 2 screws M6x12  
Mounting bracket with 2 screws M6x12

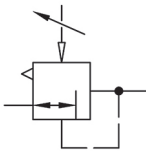
# Pressure regulator pneumatic pilot operated

## Technical data

- membrane pressure regulator with secondary venting pneumatic pilot-operated (1:1)
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Materials: Body: die-cast zinc, diaphragm and seals: NBR



### Symbol

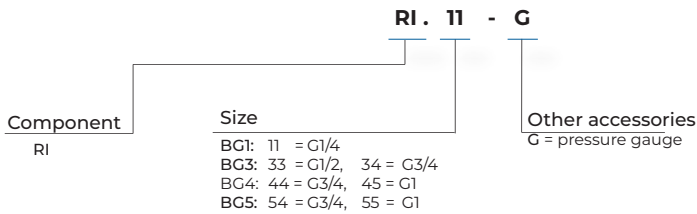


### Dimensions

Designation	Size	Connection thread	A	B	C	D	E	I pressure gauge thread	Internal air consumption	Flow P1=6bar; P2=6,3bar ΔP=1bar
RI.11	BG1	G 1/4"	48	46	48	27	G1/8"	G 1/4"	-	1800 l/min
RI.33	BG3	G 1/2"	69	69	59	35	G1/4"	G 1/4"	-	4800 l/min
RI.34	BG3	G3/4"	69	69	59	35	G1/4"	G 1/4"	-	4800 l/min
RI.44	BG4	G 3/4"	85	89	88	53	G1/4"	G 1/4"	1,5 l/min	12000 l/min
RI.45	BG4	G 1"	85	89	88	53	G1/4"	G 1/4"	1,5 l/min	12000 l/min
RI.54	BG5	G 3/4"	100	103	60	52	G1/4"	G 1/4"	-	12500 l/min
RI.55	BG5	G 1"	100	103	60	52	G1/4"	G 1/4"	-	12500 l/min

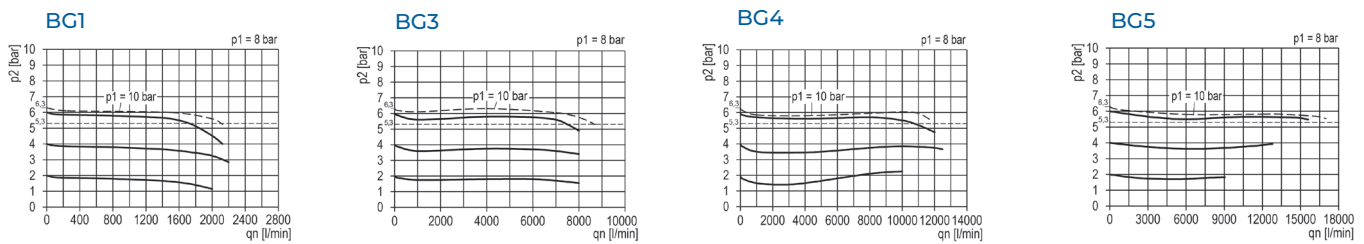
### Designation

### Accessories

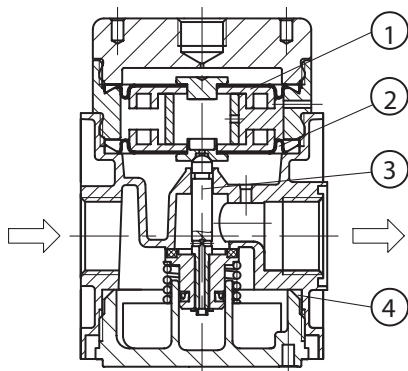


Item no.	Designation	
012954	KP.00	coupling kit BG0
004909	KP.11	coupling kit BG1
004910	KP.33	coupling kit BG3
052196	ZW.11-1	Mounting bracket with 2 screws M4x50
052201	ZW.33-1	Mounting bracket with 2 screws M5x75
045984	ZW.45	Mounting bracket with 2 screws M6x12
009663	ZW.55	Mounting bracket with 2 screws M6x12

### Flow chart



### Cross - sectional view / spare parts

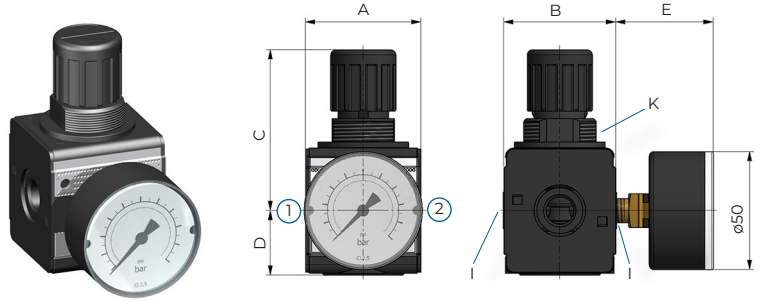


Pos.	Designation	Material	Size	Article-type	Item-no.
1	Spare parts consisting of: diaphragm with o-ring (1)	brass-NBR-POM	1	ESA-RI.11	025279
2	diaphragm without secondary venting (2)		3	ESA-RI.33	016091
3	valve cone (3)	brass-NBR-PA6 NBR	5	ESA-RI.55	013636
4	o-ring (4)				

# Precision pressure regulator

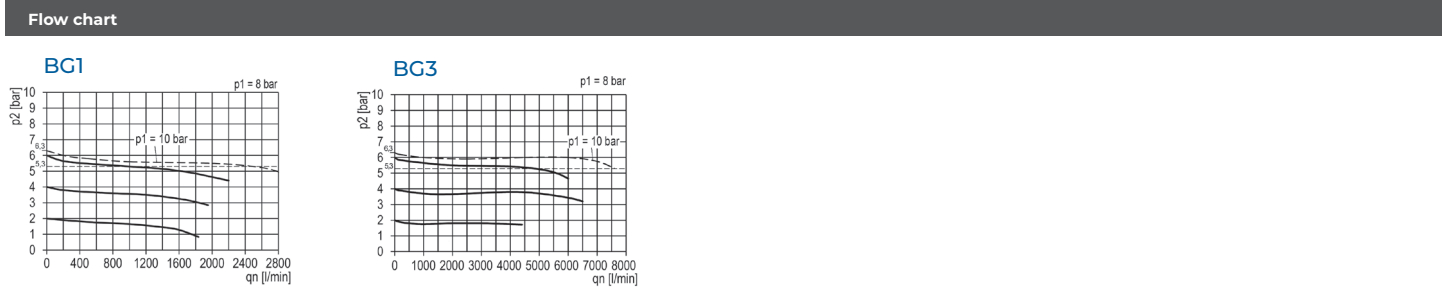
## Technical data

- membrane pressure regulator with secondary venting
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Materials: Body: die-cast zinc, spring cover: POM, diaphragm and seals: NBR



Symbol	Dimensions											
	Designation	Size	Connection thread	A	B	C	D	E	I pressure gauge thread	K Panel thread	Internal air consumption	Flow P1=6bar, P2=6,3bar ΔP=1bar
	RP.11 G	BG1	G 1/4"	48	46	67	27	~40	G1/4"	M30x1,5	2,6 l/min	2500 l/min
	RB.33 G	BG3	G 1/2"	69	69	99	35	~40	G1/4"	M50x1,5	2,6 l/min	6000 l/min

Designation	Accessories		
<p><b>RP . 11 - G</b></p> <p>Component: RP</p> <p>Size: BG1: 11 = G1/4, BG3: 33 = G1/2</p> <p>Other accessories: G = pressure gauge, S = panel nut, H = lockable hand wheel</p>	Item no.	Designation	
	004909	KP.11	coupling kit BG1
	004910	KP.33	coupling kit BG3
	052196	ZW.11-1	Mounting bracket with 2 screws M4x50
	052201	ZW.33-1	Mounting bracket with 2 screws M5x75
	052194	MW.30	mounting bracket for panel mounting
	012866	MW.50	mounting bracket for panel mounting
	052193	MW.30/DR.00-34-2	mounting bracket with panel nut M30x1,5
	008803	MW.50/C.33-42	mounting bracket with panel nut M50x1,5
	049414	C.00-34	panel nut M30x1,5 KS
	052012	DR.00-34-2	panel nut M30x1,5
	052237	C.33-42	panel nut M36x1,5

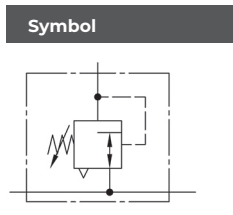
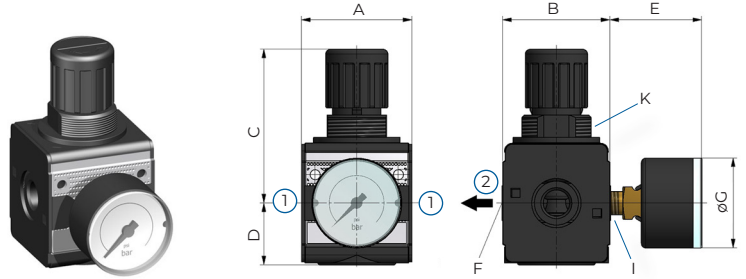


Cross - sectional view / spare parts		Pos.	Designation	Material	Size	Article-type	Item-no.
	Spare parts consisting of:				1	ESA-RP.11	015055
	1	diaphragm (1)	brass-NBR-POM				
	2	valve cone (2)	brass-NBR-PA6				
3	o-ring (3)	NBR		3	ESA-RP.33	007755	

# Pressure regulator with continuous pressure supply

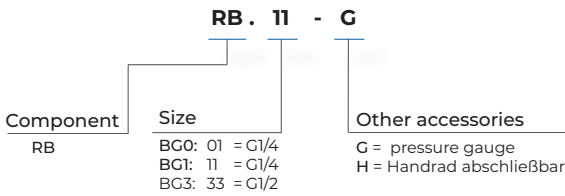
## Technical data

- membrane pressure regulator with secondary venting
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Materials: Body: die-cast zinc, spring cover: POM, diaphragm and seals: NBR



Dimensions			A	B	C	D	E	F	øG pressure gauge	I pressure gauge thread	K Panel thread	Flow P1=6bar; P2=6,3bar ΔP=1bar
<b>Designation</b>	<b>Size</b>	<b>Connection thread</b>										
RB.01 G	BG0	G 1/4"	40	40	60	22	~34,5	G1/4"	40	G1/8"	M30x1,5	1200 l/min
RB.11 G	BG1	G 1/4"	48	46	67	27	~40	G1/4"	40	G1/4"	M30x1,5	2000 l/min
RB.33 G	BG3	G 1/2"	69	69	99	35	~40	G1/2"	50	G1/4"	M50x1,5	5500 l/min

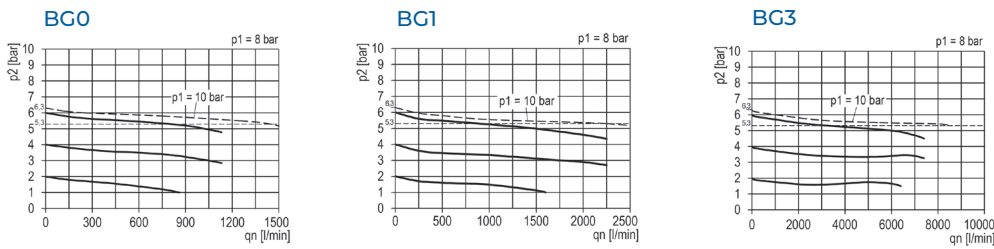
## Designation



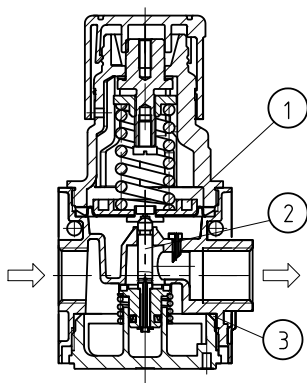
## Accessories

Item no.	Designation	
012954	KP.00	coupling kit BG0
004909	KP.11	coupling kit BG1
004910	KP.33	coupling kit BG3
052195	ZW.00-1	Mounting bracket (2x console with sliding wedge)
052196	ZW.11-1	Mounting bracket with 2 screws M4x50
052201	ZW.33-1	Mounting bracket with 2 screws M5x75
052194	MW.30	mounting bracket for panel mounting
012866	MW.50	mounting bracket for panel mounting
052193	MW.30/DR.00-34-2	mounting bracket with panel nut M30x1,5
008803	MW.50/C.33-42	mounting bracket with panel nut M50x1,5
049414	C.00-34	panel nut M30x1,5 KS
052012	DR.00-34-2	panel nut M30x1,5
052237	C.33-42	panel nut M36x1,5

## Flow chart



## Cross-sectional view / spare parts

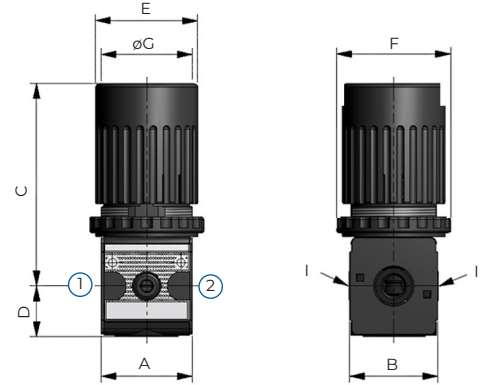


Pos.	Designation	Material	Size	Article-type	Item-no.
	Spare parts consisting of:		0	ESA-R.00/RB.01	014366
1	diaphragm with o-ring (1)	brass-NBR-POM	1	ESA-R/C.11	016091
2	valve cone (2)	brass-NBR-PA6			
3	o-ring (3)	NBR	3	ESA-R/C.33	006111

# Druckregelventil mit Manometer im Handrad

## Technical data

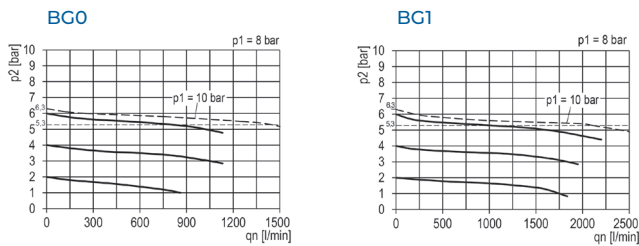
- membrane pressure regulator with secondary venting
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar
- Installation position: vertical
- Befestigungsart: Schalttafeleinbau
- Handrad kann durch Herunterdrücken arretiert werden
- Materials: Body: die-cast zinc, spring cover: POM, diaphragm and seals: NBR



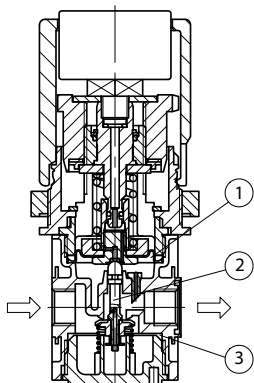
Symbol	Dimensions												
	Designation	Size	Con- nection thread	A	B	C	D	E	F	Schalttafel- einbau-ø	G pressure gauge thread	I	Flow P1=6bar; P2=6,3bar ΔP=1bar
	RG.01 S	BG0	G 1/4"	40	40	90	22	ø33,6	ø39,5	ø36,5	ø25	G1/8"	1100 l/min
	RG.01 S	BG0	G 1/4"	40	40	102	22	ø54	ø60	ø48,5	ø40	G1/8"	1100 l/min
	RG.11 S	BG1	G 1/4"	48	47	107	26	ø54	ø60	ø48,5	ø40	G1/4"	1500 l/min
	RG.12 S	BG1	G 3/8"	48	47	107	26	ø54	ø60	ø48,5	ø40	G1/4"	1500 l/min

Designation	Accessories		
<p><b>RG . 11 - S</b></p> <p>Component: RG</p> <p>Size: BG0: 01 = G1/4 BG1: 11 = G1/4, 12 = G3/8</p> <p>Other accessories S = Schalttafeleinbau</p>	Item no.	Designation	
	012954	KP.00	coupling kit BG0
	004909	KP.11	coupling kit BG1

## Flow chart



## Cross - sectional view / spare parts

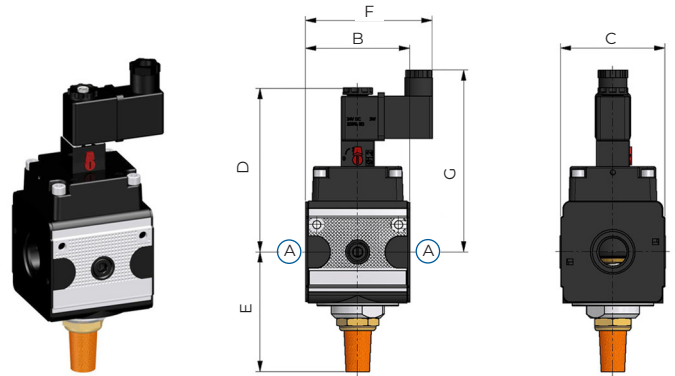


Pos.	Designation	Material	Size	Article-type	Item-no.
	Spare parts consisting of:				
1	diaphragm with o-ring (1)	brass-NBR-POM	0	ESA-RG.00	054473
2	valve cone (2)	brass-NBR-PA6	1	ESA-RG.11	023987
3	o-ring (3)	NBR			

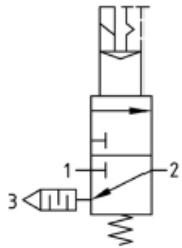
## 3/2 Directional control valve

### Technical data

- 3/2-way poppet valve
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min. 2 bar; P1 max. 10 bar
- Operation: electric standard, pneumatic
- Valve control: 24 V= (alternative: 115V/50Hz, 230V/50Hz)
- Relative duty cycle: 100%
- Performance: 4,8 W
- Protection class: IP65 according to DIN 40050
- Electrical connection: cable plug EN 175301-803, form B nr. of poles 2 + PE (incl.)
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- Fixing: BG1: coupling kit wall mounting  
BG1 - BG5: two holes in the body or mounting bracket



### Symbol



### Dimensions

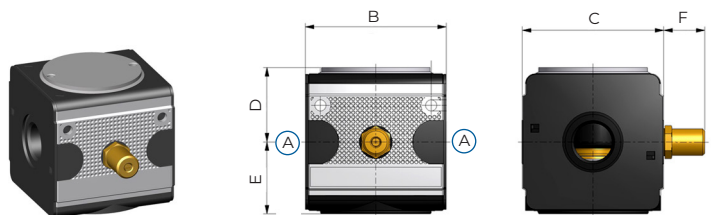
Designation	Size	Connection thread A	B	C	D	E	F	G	Exhaust air	Flow l/min
S.01	BG0	G 1/4"	45	48	95	29	64	106	G 1/4	1600
S.11	BG1	G 1/4"	48	46	95	44	75	106	G 1/4	900
S.33	BG3	G 1/2"	69	69	108	79	84	120	G 1/2	4000
S.44	BG4	G 3/4"	85	89	-	101	-	103	G 1/2	12500
S.45	BG4	G 1"	85	89	-	101	-	103	G 1/2	12500
S.54	BG5	G 3/4"	102	103	104	94	-	116	G 1/2	14000
S.55	BG5	G 1"	102	103	104	94	-	116	G 1/2	14000

additional I = pneumatically operated  
additional C = with CNOMO adapter without pilot valve

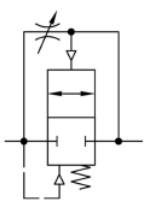
## Soft start valve

### Technical data

- Seat valve, operated by secondary pressure
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min. 2,5 bar; P1 max. 16 bar
- Switching pressure: 50% P1 (only for closed systems)
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- Fixing: BG1: coupling kit wall mounting  
BG1 - BG5: two holes in the body or mounting bracket



### Symbol



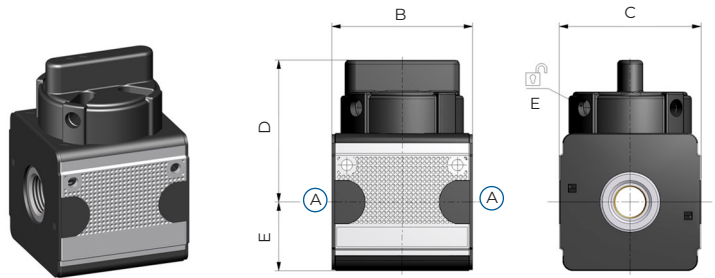
### Dimensions

Designation	Size	Connection thread A	B	C	D	E	F	Durchfluss l/min
A.01 F	BG0	G 1/4"	45	40	49	29	2,2	2250
A.11 F	BG1	G 1/4"	48	46	27	27	20	1100
A.33 F	BG3	G 1/2"	69	69	36	35	20	3500
A.44 F	BG4	G 3/4"	85	89	66	53	-	10000
A.45 F	BG4	G 1"	85	89	66	53	-	10000
A.54 F	BG5	G 3/4"	100	103	52	52	20	16000
A.55 F	BG5	G 1"	100	103	52	52	20	16000

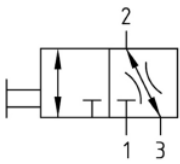
## Ball valve

### Technical data

- 3/2 way valve, exhaust air ducted
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max. 16 bar
- Lockable with padlock
- Betätigung: Knebel 90° drehbar
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- Fixing: BG1: coupling kit wall mounting  
BG1 - BG5: two holes in the body or mounting bracket



### Symbol



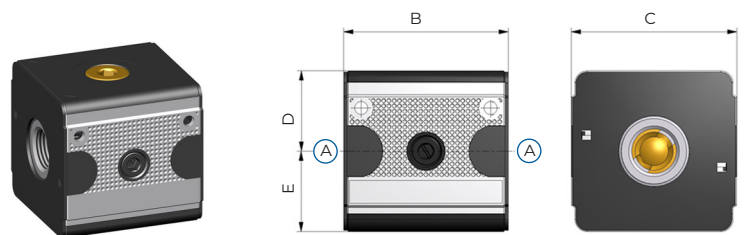
### Dimensions

Designation	Size	Connection thread A	B	C	D	E	Exhaust air	Flow l/min
K.00	BG0	G 1/8"	40	40	38	28	G 1/4	2000
K.01	BG0	G 1/4"	40	40	38	28	G 1/4	2000
K.11	BG1	G 1/4"	48	46	54	34	G 1/4	2000
K.12	BG1	G 3/8"	48	46	54	34	G 1/4	2000
K.33	BG3	G 1/2"	69	69	69	77	G 1/2	4300
K.34	BG3	G 3/4"	69	69	69	77	G 1/2	4300
K.44	BG4	G 3/4"	85	89	90	50	G 1/2	12500
K.45	BG4	G 1"	85	89	90	50	G 1/2	12500
K.5-	BG5	G 1"	60	103	83	85	G 1/2	12500

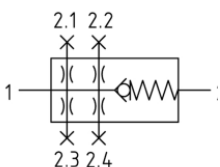
## Non-return valve

### Technical data

- Seat valve, spring loaded
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 min.: 0,1 bar
- Input pressure P1 max.: 16 bar
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- Fixing: two holes in the body or mounting bracket



### Symbol



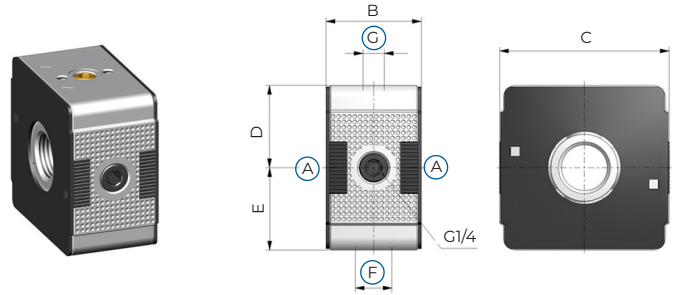
### Dimensions

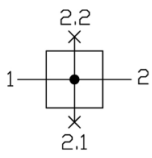
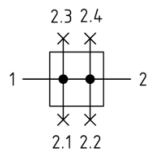
Designation	Size	Connection thread A	B	C	D	E	Flow l/min
V.11	BG1	G 1/4"	48	46	26	26	2000
V.12	BG1	G 3/8"	48	46	26	26	2000
V.33	BG1	G 1/2"	69	69	34	34	2000
V.34	BG2	G 3/4"	69	69	34	34	4300

## Distributor small

### Technical data

- Distributor 2-fold (BG0)  
Cross distributor 4-fold (BG1, BG3, BG5)
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar
- Materials: Body: die-cast zinc  
diaphragm and seals: NBR
- Fixing: two holes in the body or mounting bracket

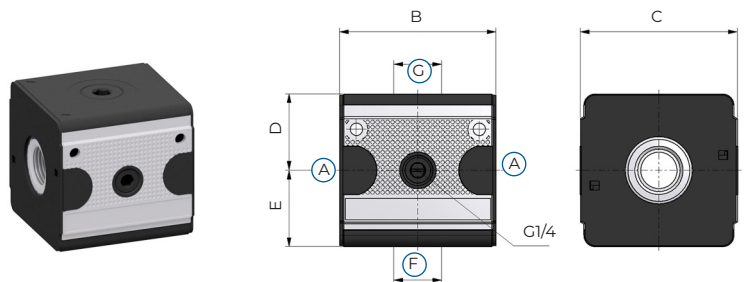


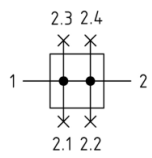
Symbol		Dimensions								
Designation	Size	Connection thread A	B	C	D	E	F	G	Flow 1 → 2 l/min	
	Z.01	BG0	G 1/4"	23	40	17	17	G1/8"	G1/8"	2700 l/min
	Z.11	BG1	G 1/4"	35	46	26	26	G1/4"	G1/8"	3300 l/min
	Z.33	BG3	G1/2"	39	69	34	34	G3/8"	G1/8"	11000 l/min
	Z.5-	BG5	G1"	60	103	52	50	G1/2"	G1/2"	25000 l/min

## Distributor

### Technical data

- Distributor 2-fold (BG0)  
Cross distributor 4-fold (BG1, BG3, BG5)
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure P1 max.: 16 bar
- Materials: Body: die-cast zinc  
diaphragm and seals: NBR
- Fixing: two holes in the body or mounting bracket



Symbol		Dimensions								
Designation	Size	Connection thread A	B	C	D	E	F	G	Flow 1 → 2 l/min	
	T.11	BG1	G 1/4"	48	46	26	26	G1/4"	G1/4"	2500 l/min
	T.12	BG1	G 3/8"	48	46	26	26	G1/4"	G1/4"	2500 l/min
	T.33	BG3	G1/2"	69	69	34	34	G1/2"	G1/2"	11000 l/min
	T.34	BG3	G3/4"	69	69	34	34	G1/2"	G1/2"	11000 l/min
	T.44	BG4	G3/4"	85	89	50	58	G1"	G3/4"	18000 l/min
	T.45	BG4	G1"	85	89	50	58	G1"	G3/4"	18000 l/min

## PROPERTIES



weight  
low



modularity  
high



temperature resistance  
-10°C to +50°C



connection sizes  
to G1"



resistance capability  
medium



flow rate  
high



# FUTURA-SERIES.

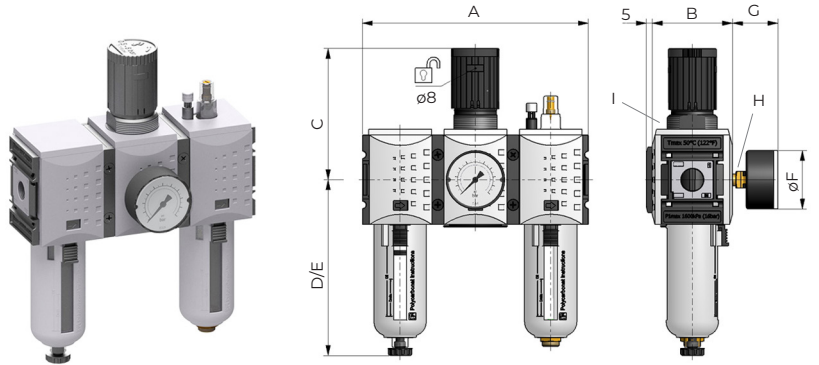
Our Futura series is one of the most innovative FRL solutions in the field of compressed air treatment. With its modular design and a housing made of fiber-reinforced PA66, you get an innovative and high-quality FRL solution. Thanks to its modular design, the Futura series can be used to develop a tailor-made FRL solution for you. The series can also support you in the area of brand

awareness thanks to its customizable design. The Futura series impresses with its high control accuracy, low carbon footprint and high efficiency.

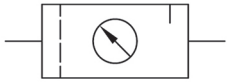
# Service 3 unit

## Technical data

- Sintered filter, centrifugal principle, membrane pressure regulator with secondary venting; proportional lubricator
- Locking: lockable with plug-in lock or padlock
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BG0 = 12bar
- Installation position: vertical
- Filter fineness: 5 µm
- Condensate container: PC with protective cage PA or metal container
- Condensate drain: semi-automatic drain (HA) or fully automatic (AM / AMC)
- Materials: Body: PA66 GF60, spring cover: POM, diaphragm and seals: NBR,
- Oil dosing at qv = 1000 l/min: 1-2 d/min
- Oil type: CL32 according to DIN 51517 - ISO VG32



### Symbol



### Dimensions

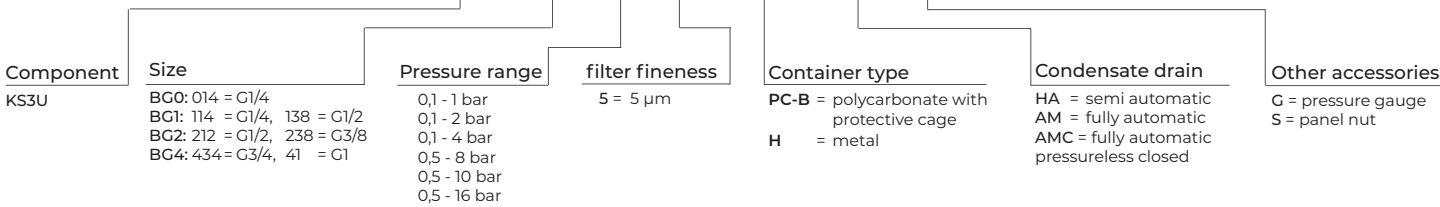
	A	B	C	D (HA)	E (AM)	F	G	H pressure gauge thread	I Panel thread
<b>BG0</b>	129	48	63	105	143	-	12	-	M30x1,5
<b>BG1</b>	156	54	96	130	145	ø50	38	G 1/8"	M36x1,5
<b>BG2</b>	189	67	110	147	163	ø50	38	G 1/8"	M42x1,5
<b>BG4</b>	255	93	137	189	206	ø63	38	G 1/8"	M50x1,5

### Technical specifications

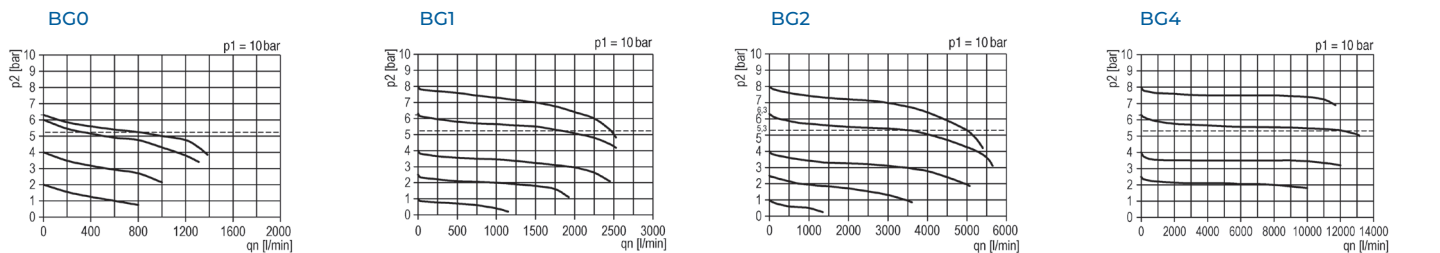
Designation	Size	Connection thread	Flow P1=10bar; p2=6,3bar ΔP=1bar	drain connection thread	weight	internal air consumption	lockable with a padlock
<b>KS3U-014</b>	BG0	G 1/4"	400 l/min	G 1/8"	0.5012 kg	-	no
<b>KS3U-114</b>	BG1	G 1/4"	1500 l/min	G 1/8"	0.8361 kg	-	yes
<b>KS3U-138</b>	BG1	G3/8"	1500 l/min	G 1/8"	0.8361 kg	-	yes
<b>KS3U-238</b>	BG2	G3/8"	3500 l/min	G 1/8"	1.422 kg	-	yes
<b>KS2U-212</b>	BG2	G1/2"	3500 l/min	G 1/8"	1.3734 kg	-	yes
<b>KS3U-434</b>	BG4	G3/4"	12000 l/min	G 1/8"	2.9811 kg	max. 1,5 l/min	yes
<b>KS3U-41</b>	BG4	G1"	12000 l/min	G 1/8"	2.7822 kg	max. 1,5 l/min	yes

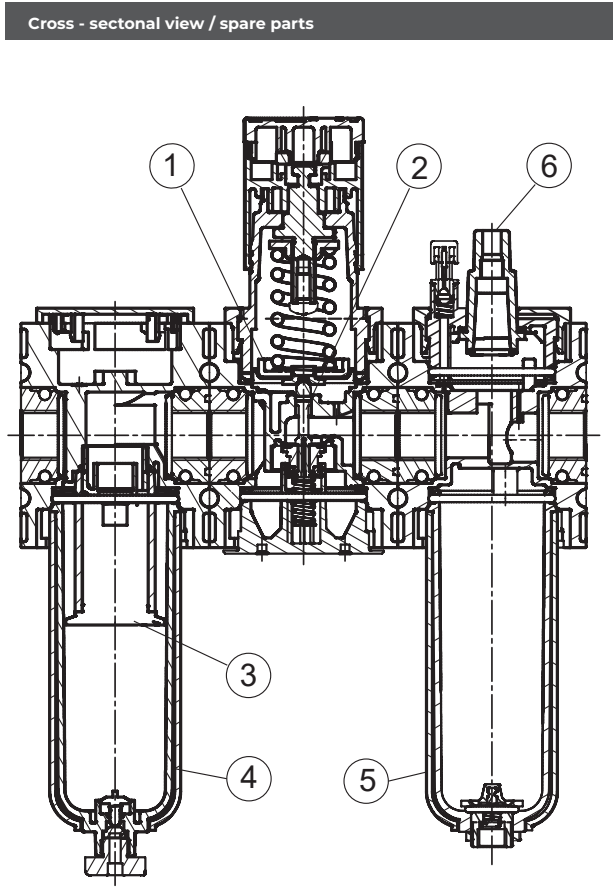
### Designation

**KS3U - 114 - 8 - 5 - PC - B - HA - G**



### Flow chart





Pos.	Designation	Material	Size	Article type	Item no.
1 + 2	Spare parts consisting of: membrane (1) + valve cone (2)	brass-NBR-POM brass-NBR-PA6	0	-	-
			1	KESA.1-1311	035244
			2	KESA.2-1311	035225
			4	KESA.4-1311	042038
3	filter element 5 µm	Cellpor	0 + 1	C.00-26	052187
			2	C.22-26	050551
			4	FE.4-560	032171
4	condensate bowl with bowl guard, semi automatic drain (HA) and o-ring	polycarbonate	0	C.00-PC-HA	011972
			1	BE.1-PC-B-HA	026238
			2	BE.2-PC-B-HA	028069
4	condensate bowl with bowl guard, fully automatic condensate drain (AM10) and o-ring	polycarbonate	0	C.11-PC-AM	004429
			1	BE.1-PC-B-AM	026239
			2	BE.2-PC-B-AM	028070
4	condensate bowl with bowl guard, fully automatic condensate drain (AM10/NC) and o-ring	polycarbonate	0	C.11-AMC	024937
			1	BE.1-AMC	026240
			2	BE.2-AMC	028071
4	metal bowl with visual display, with semi automatic drain (HA) and o-ring	metal	0	C.00-M-HA	012870
			1	BE.1-H-HA	027210
			2	BE.2-H-HA	028560
4	metal bowl with visual display, fully automatic condensate drain (AM10) and o-ring	metal	0	C.00-M-AM	031836
			1	BE.1-H-AM	027211
			2	BE.2-H-AM	028563
4	metal bowl with visual display, fully automatic condensate drain (AM10/NC) and o-ring	metal	0	C.00-M-AMC	033859
			1	BE.1-H-AMC	027214
			2	BE.2-H-AMC	028564
5	oil bowl with o-ring	polycarbonate	0	L.00	013178
			1	BE.1 LUB	026241
			2	BE.2 LUB	028073
5	oil bowl with bowl guard and o-ring	polycarbonate	0	L.00-M	013179
			1	BE.1-H-LUB	027212
			2	BE.2-H-LUB	028566
5	metal oil bowl with visidual display and o-ring	zinc-die casting	0	BE.4-H-LUB	033589
			1	BE.1-H-LUB	027212
			2	BE.2-H-LUB	028566
6	dome assembly	polycarbonate seals: NBR	0	ESA.0-1312	054979
			1 - 4	ESA.1-1312	027942

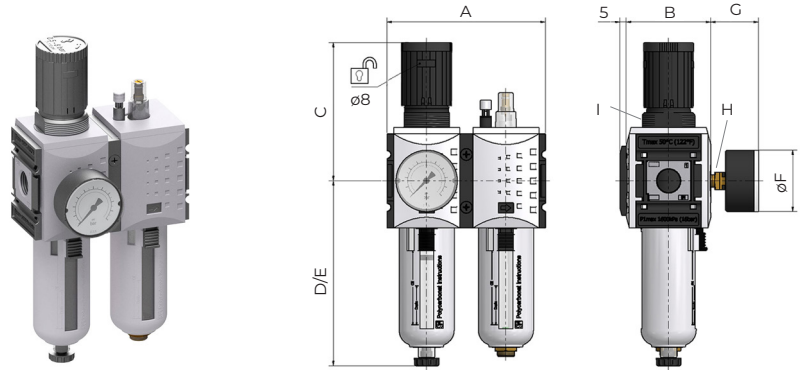
**Accessories**

Item no.	Designation	Item no.	Designation
035762	KKOP.0 coupling kit BG0	040566	KKOP-0A coupling adapter BG0/BG1
034271	KKOP.1 coupling kit BG1	040378	KKOP-1A coupling adapter BG1/BG2
034601	KKOP.2 coupling kit BG2	040379	KKOP-2A coupling adapter BG2/BG4
034831	KKOP.4 coupling kit BG4	052203	KBW.0-1225 mounting bracket BG0 with screws
035763	KKOP.0W coupling kit wall mounting BG0	052210	KBW.1-1225 mounting bracket BG1 with screws
034270	KKOP.1W coupling kit wall mounting BG1	052204	KBW.2-1225 mounting bracket BG2 with screws
034604	KKOP.2W coupling kit wall mounting BG2	034330	KBW.4-1225 mounting bracket BG4 with screws
034832	KKOP.4W coupling kit wall mounting BG4	035760	KBW.0-1227 mounting bracket for panel mounting BG0
040319	KKOP-014K coupling kit BG0 G1/4 for wall assembly	052275	KBW.1-1228 mounting bracket for panel mounting BG1
040327	KKOP-018K coupling kit BG0 G1/8 for wall assembly	052205	KBW.2-1227 mounting bracket for panel mounting BG2
040320	KKOP-114K coupling kit BG1 G1/4 for wall assembly	044020	KBW.1-1228-S mounting bracket with panel nut M36x1,5
040324	KKOP-138K coupling kit BG1 G3/8 for wall assembly	044022	KBW.2-1227-S mounting bracket with panel nut M42x1,5
040321	KKOP-238K coupling kit BG2 G3/8 for wall assembly	049414	C.00-34 panel nut M30x1,5 KS
040323	KKOP-212K coupling kit BG2 G1/2 for wall assembly	052237	SM.1 panel nut M36x1,5
040347	KKOP-234K coupling kit BG2 G3/4 for wall assembly	052238	SM.2 panel nut M42x1,5
040322	KKOP-434K coupling kit BG4 G3/4 for wall assembly	032263	VH.31 padlock with E11 closing, without key
030321	KKOP-41K coupling kit BG4 G1 for wall assembly	032264	VH.32 padlock with key and G1663 closing

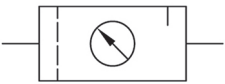
# Service 2 unit

## Technical data

- Sintered filter, centrifugal principle, membrane pressure regulator with secondary venting; proportional lubricator
- Locking: lockable with plug-in lock or padlock
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BG0 = 12bar
- Installation position: vertical
- Filter fineness: 5 µm
- Condensate container: PC with protective cage PA or metal container
- Condensate drain: semi-automatic drain (HA) or fully automatic (AM / AMC)
- Materials: Body: PA66 GF60, spring cover: POM, diaphragm and seals: NBR,
- Oil dosing at qv = 1000 l/min: 1-2 d/min
- Oil type: CL32 according to DIN 51517 - ISO VG32



## Symbol



## Dimensions

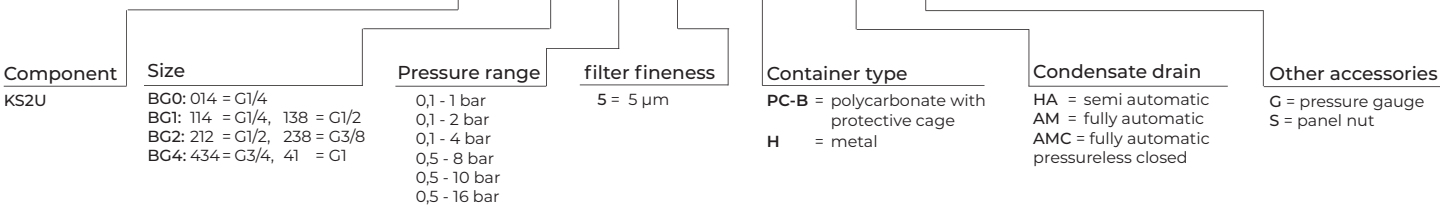
	A	B	C	D (HA)	E (AM)	F	G	H pressure gauge thread	I panel thread
<b>BG0</b>	86	48	63	105	143	-	12	-	M30x1,5
<b>BG1</b>	104	54	96	130	145	ø50	38	G 1/8"	M36x1,5
<b>BG2</b>	126	67	110	147	163	ø50	38	G 1/8"	M42x1,5
<b>BG4</b>	170	93	137	189	206	ø63	38	G 1/8"	M50x1,5

## Technical specifications

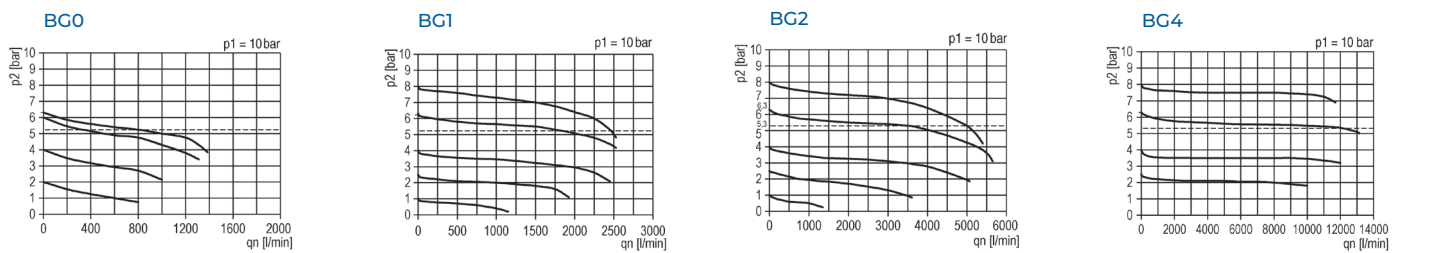
Designation	Size	Connection thread	flow P1=10bar; p2=6,3bar ΔP=1bar	drain connection thread	weight	internal air consumption	lockable with a padlock
<b>KS2U-014</b>	BG0	G 1/4"	600 l/min	G 1/8"	0.5012 Kg	-	no
<b>KS2U-114</b>	BG1	G 1/4"	1800 l/min	G 1/8"	0.8361 Kg	-	yes
<b>KS2U-138</b>	BG1	G3/8"	1800 l/min	G 1/8"	0.8361Kg	-	yes
<b>KS2U-238</b>	BG2	G3/8"	3500 l/min	G 1/8"	1.422 Kg	-	yes
<b>KS2U-212</b>	BG2	G1/2"	3500 l/min	G 1/8"	1.3734 Kg	-	yes
<b>KS2U-434</b>	BG4	G3/4"	12000 l/min	G 1/8"	2.9811 Kg	max. 1,5 l/min	yes
<b>KS2U-41</b>	BG4	G1"	12000 l/min	G 1/8"	2.7822 Kg	max. 1,5 l/min	yes

## Designation

**KS2U - 114 - 8 - 5 - PC - B - HA - G**



## Flow chart



Cross - sectional view / spare parts		Pos.	Designation	Material	Size	Article type	Item no.
	<b>1 + 2</b> Spare parts consisting of: membrane (1) + valve cone (2)	brass-NBR-POM brass-NBR-PA6	0	-	-	-	-
			1	KESA.1-1311	035244		
			2	KESA.2-1311	035225		
			4	KESA.4-1311	042038		
	<b>3</b> filter element 5 µm	Cellpor	0 + 1	C.00-26	052187		
			2	C.22-26	050551		
			4	FE.4-560	032171		
	<b>4</b> condensate bowl with bowl guard, semi automatic drain (HA) and o-ring	polycarbonate	0	C.00-PC-HA	011972		
			1	BE.1-PC-B-HA	026238		
			2	BE.2-PC-B-HA	028069		
	<b>4</b> condensate bowl with bowl guard, fully automatic condensate drain (AM10) and o-ring	polycarbonate	0	C.11-PC-AM	004429		
			1	BE.1-PC-B-AM	026239		
			2	BE.2-PC-B-AM	028070		
	<b>4</b> condensate bowl with bowl guard, fully automatic condensate drain (AM10/NC) and o-ring	polycarbonate	0	C.11-AMC	024937		
			1	BE.1-AMC	026240		
2			BE.2-AMC	028071			
<b>4</b> metal bowl with visual display, with semi automatic drain (HA) and o-ring	metal	0	C.00-M-HA	012870			
		1	BE.1-H-HA	027210			
		2	BE.2-H-HA	028560			
		4	BE.4-H-HA	033579			
<b>4</b> metal bowl with visual display, fully automatic condensate drain (AM10) and o-ring	metal	0	C.00-M-AM	031836			
		1	BE.1-H-AM	027211			
		2	BE.2-H-AM	028563			
		4	BE.4-H-AM	033583			
<b>4</b> metal bowl with visual display, fully automatic condensate drain (AM10/NC) and o-ring	metal	0	C.00-M-AMC	033859			
		1	BE.1-H-AMC	027214			
		2	BE.2-H-AMC	028564			
		4	BE.4-H-AMC	033586			
<b>5</b> oil bowl with o-ring oil bowl with bowl guard and o-ring	polycarbonate	0	L.00	013178			
		1	BE.1 LUB	026241			
		2	BE.2 LUB	028073			
		4	BE.4 LUB	030310			
<b>5</b> metal oil bowl with o-ring metal bowl with visidual display and o-ring	zinc-die casting	0	L.00-M	013179			
		1	BE.1-H-LUB	027212			
		2	BE.2-H-LUB	028566			
		4	BE.4-H-LUB	033589			
<b>6</b> dome assembly	polycarbonate seals: NBR	0	ESA.0-1312	054979			
		1 - 4	ESA.1-1312	027942			

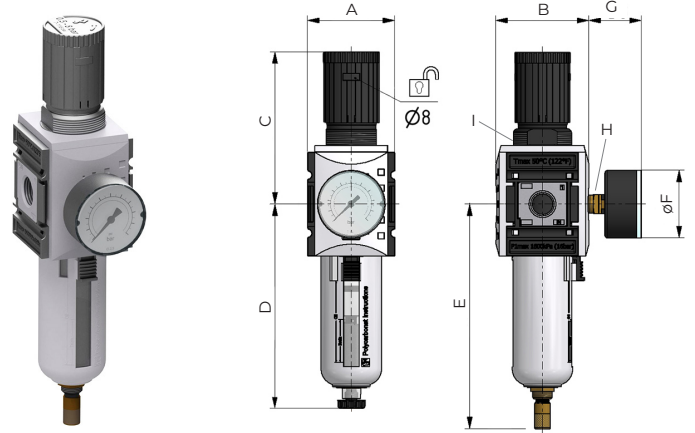
**Accessories**

Item no.	Designation	Item no.	Designation
035762	KKOP.0 coupling kit BG0	040566	KKOP-0A coupling adapter BG0/BG1
034271	KKOP.1 coupling kit BG1	040378	KKOP-1A coupling adapter BG1/BG2
034601	KKOP.2 coupling kit BG2	040379	KKOP-2A coupling adapter BG2/BG4
034831	KKOP.4 coupling kit BG4	052203	KBW.0-1225 mounting bracket BG0 with screws
035763	KKOP.0W coupling kit wall mounting BG0	052210	KBW.1-1225 mounting bracket BG1 with screws
034270	KKOP.1W coupling kit wall mounting BG1	052204	KBW.2-1225 mounting bracket BG2 with screws
034604	KKOP.2W coupling kit wall mounting BG2	034330	KBW.4-1225 mounting bracket BG4 with screws
034832	KKOP.4W coupling kit wall mounting BG4	035760	KBW.0-1227 mounting bracket for panel mounting BG0
040319	KKOP-014K coupling kit BG0 G1/4 for wall assembly	052275	KBW.1-1228 mounting bracket for panel mounting BG1
040327	KKOP-018K coupling kit BG1 G1/8 for wall assembly	052205	KBW.2-1227 mounting bracket for panel mounting BG2
040320	KKOP-114K coupling kit BG1 G1/4 for wall assembly	044020	KBW.1-1228-S mounting bracket with panel nut M36x1,5
040324	KKOP-138K coupling kit BG1 G3/8 for wall assembly	044022	KBW.2-1227-S mounting bracket with panel nut M42x1,5
040321	KKOP-238K coupling kit BG2 G3/8 for wall assembly	049414	C.00-34 panel nut M30x1,5 KS
040323	KKOP-212K coupling kit BG2 G1/2 for wall assembly	052237	SM.1 panel nut M36x1,5
040347	KKOP-234K coupling kit BG2 G3/4 for wall assembly	052238	SM.2 panel nut M42x1,5
040322	KKOP-434K coupling kit BG4 G3/4 for wall assembly	032263	VH.31 padlock with E11 closing, without key
030321	KKOP-41K coupling kit BG4 G1 for wall assembly	032264	VH.32 padlock with key and G1663 closing

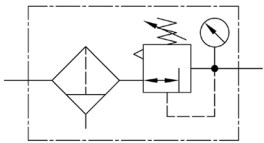
# Filter regulator

## Technical data

- Sintered filter, centrifugal principle, membrane pressure regulator with secondary venting
- Locking: lockable with plug-in lock or padlock
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BG0 = 12bar
- Installation position: vertical
- Filter fineness: 5 µm
- Condensate container: PC with protective cage PA or metal container
- Condensate drain: semi-automatic drain (HA) or fully automatic (AM / AMC)
- Materials: Body: PA66 GF60, spring cover: POM, diaphragm and seals: NBR,



## Symbol



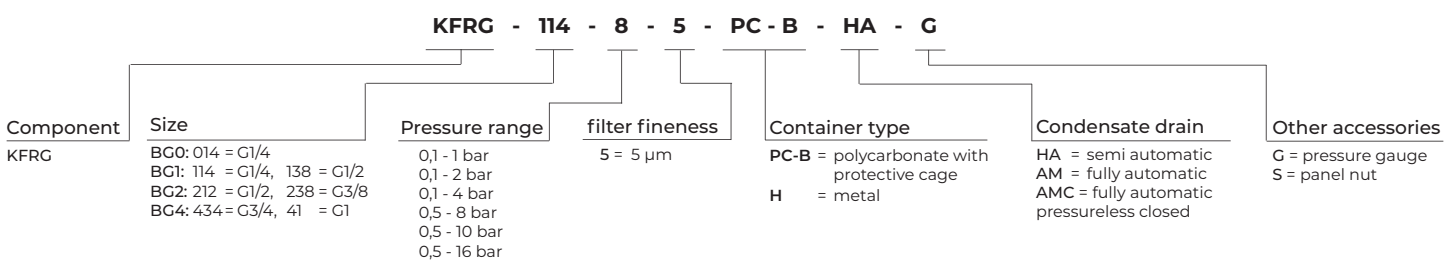
## Dimensions

	A	B	C	D (HA)	E (AM)	F	G	H pressure gauge thread	I panel thread
<b>BG0</b>	43	48	63	105	143	-	12	-	M30x1,5
<b>BG1</b>	52	54	96	130	145	ø50	38	G 1/8"	M36x1,5
<b>BG2</b>	63	67	110	147	163	ø50	38	G 1/8"	M42x1,5
<b>BG4</b>	85	93	137	189	206	ø63	38	G 1/8"	M50x1,5

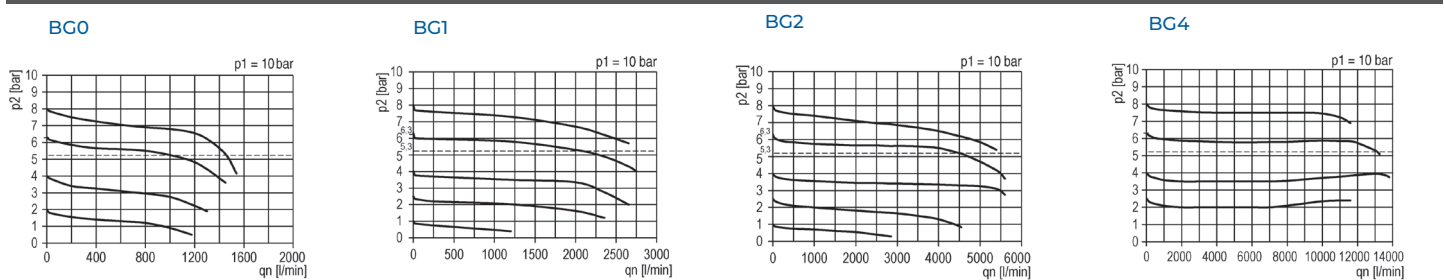
## Technical specifications

Designation	Size	Connection thread	flow P1=10bar; P2=6,3bar ΔP=1bar	drain connection thread	weight	internal air consumption	lockable with a padlock
<b>KFRG-014</b>	BG0	G 1/4"	1000 l/min	G 1/8"	0.224 Kg	-	no
<b>KFRG-114</b>	BG1	G 1/4"	2200 l/min	G 1/8"	0.3476 Kg	-	yes
<b>KFRG-138</b>	BG1	G3/8"	2600 l/min	G 1/8"	0.3476 Kg	-	yes
<b>KFRG-238</b>	BG2	G3/8"	4300 l/min	G 1/8"	0.5726 Kg	-	yes
<b>KFRG-212</b>	BG2	G1/2"	5200 l/min	G 1/8"	0.5726 Kg	-	yes
<b>KFRG-434</b>	BG4	G3/4"	14000 l/min	G 1/8"	1.317 Kg	max. 1,5 l/min	yes
<b>KFRG-41</b>	BG4	G1"	14000 l/min	G 1/8"	1.317 Kg	max. 1,5 l/min	yes

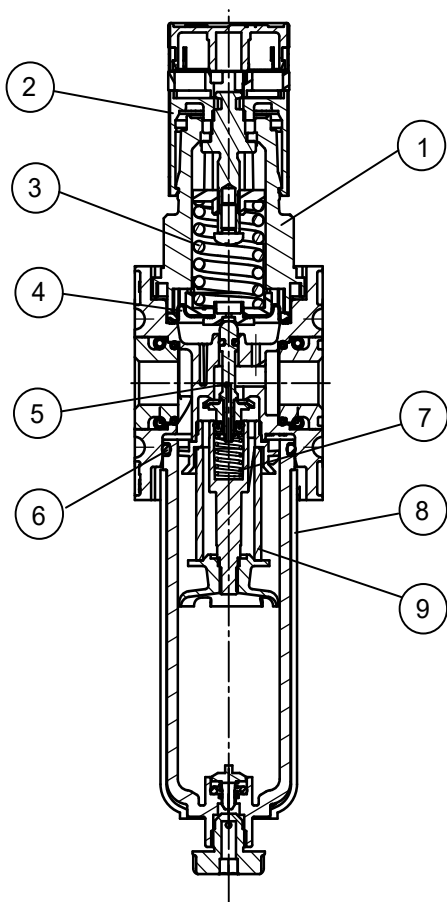
## Designation



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1 + 2	Spare parts consisting of: membrane (1) + valve cone (2)	brass-NBR-POM brass-NBR-PA6	0	-	-
			1	KESA.1-1311	035244
			2	KESA.2-1311	035225
			4	KESA.4-1311	042038
3	filter element 5 µm	Cellpor	0 + 1	C.00-26	052187
			2	C.22-26	050551
			4	FE.4-560	032171
4	condensate bowl with bowl guard, semi automatic drain (HA) and o-ring	polycarbonate	0	C.00-PC-HA	011972
			1	BE.1-PC-B-HA	026238
			2	BE.2-PC-B-HA	028069
			4	BE.4-PC-B-HA	030303
4	condensate bowl with bowl guard, fully automatic condensate drain (AM10) and o-ring	polycarbonate	0	C.11-PC-AM	004429
			1	BE.1-PC-B-AM	026239
			2	BE.2-PC-B-AM	028070
			4	BE.4-PC-B-AM	030304
4	condensate bowl with bowl guard, fully automatic condensate drain (AM10/NC) and o-ring	polycarbonate	0	C.11-AMC	024937
			1	BE.1-AMC	026240
			2	BE.2-AMC	028071
			4	BE.4-AMC	030308
4	metal bowl with visual display, with semi automatic drain (HA) and o-ring	metal	0	C.00-M-HA	012870
			1	BE.1-H-HA	027210
			2	BE.2-H-HA	028560
			4	BE.4-H-HA	033579
4	metal bowl with visual display, fully automatic condensate drain (AM10) and o-ring	metal	0	C.00-M-AM	031836
			1	BE.1-H-AM	027211
			2	BE.2-H-AM	028563
			4	BE.4-H-AM	033583
4	metal bowl with visual display, fully automatic condensate drain (AM10/NC) and o-ring	metal	0	C.00-M-AMC	033859
			1	BE.1-H-AMC	027214
			2	BE.2-H-AMC	028564
			4	BE.4-H-AMC	033586

Accessories

Item no. Designation

035762	KKOP.0	coupling kit BG0
034271	KKOP.1	coupling kit BG1
034601	KKOP.2	coupling kit BG2
034831	KKOP.4	coupling kit BG4
035763	KKOP.0W	coupling kit wall mounting BG0
034270	KKOP.1W	coupling kit wall mounting BG1
034604	KKOP.2W	coupling kit wall mounting BG2
034832	KKOP.4W	coupling kit wall mounting BG4
040319	KKOP-014K	coupling kit BG0 G1/4 for wall assembly
040327	KKOP-018K	coupling kit BG0 G1/8 for wall assembly
040320	KKOP-114K	coupling kit BG1 G1/4 for wall assembly
040324	KKOP-138K	coupling kit BG1 G3/8 for wall assembly
040321	KKOP-238K	coupling kit BG2 G3/8 for wall assembly
040323	KKOP-212K	coupling kit BG2 G1/2 for wall assembly
040347	KKOP-234K	coupling kit BG2 G3/4 for wall assembly
040322	KKOP-434K	coupling kit BG4 G3/4 for wall assembly
030321	KKOP-41K	coupling kit BG4 G1 for wall assembly

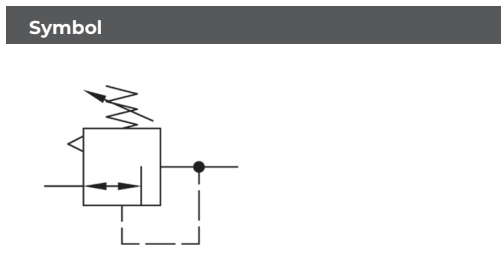
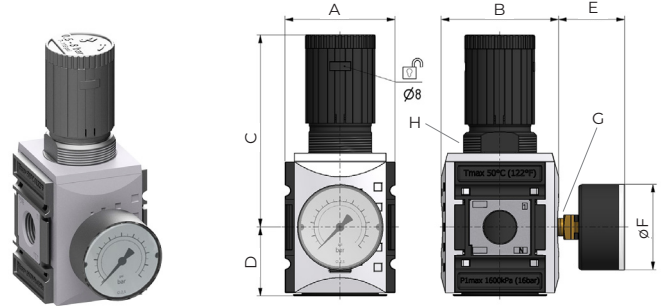
Item no. Designation

040566	KKOP-0A	coupling adapter BG0/BG1
040378	KKOP-1A	coupling adapter BG1/BG2
040379	KKOP-2A	coupling adapter BG2/BG4
052203	KBW.0-1225	mounting bracket BG0 with screws
052210	KBW.1-1225	mounting bracket BG1 with screws
052204	KBW.2-1225	mounting bracket BG2 with screws
034330	KBW.4-1225	mounting bracket BG4 with screws
035760	KBW.0-1227	mounting bracket for panel mounting BG0
052275	KBW.1-1228	mounting bracket for panel mounting BG1
052205	KBW.2-1227	mounting bracket for panel mounting BG2
044020	KBW.1-1228-S	mounting bracket with panel nut M36x1,5
044022	KBW.2-1227-S	mounting bracket with panel nut M42x1,5
049414	C.00-34	panel nut M30x1,5 KS
052237	SM.1	panel nut M36x1,5
052238	SM.2	panel nut M42x1,5
032263	VH.31	padlock with E11 closing, without key
032264	VH.32	padlock with key and G1663 closing

# Pressure regulator

## Technical data

- membrane pressure regulator with secondary venting
- Locking: lockable with plug-in lock or padlock
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 max.: 16 bar
- Installation position: arbitrary
- Materials: Body: PA66 GF60, spring cover: POM, diaphragm and seals: NBR,

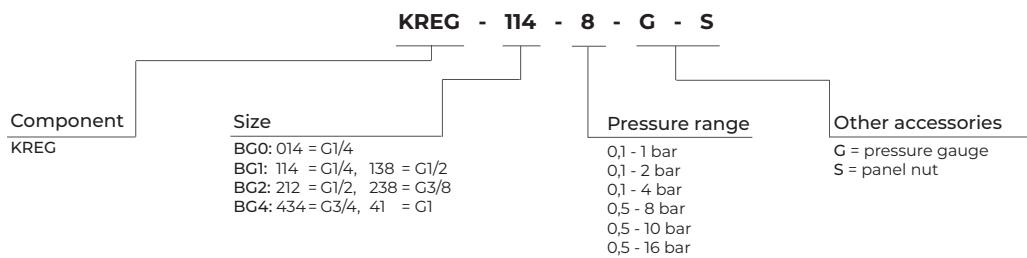


	Dimensions							
	A	B	C	D	E	F	H pressure gauge thread	I panel thread
<b>BG0</b>	43	48	63	25	12	-	-	M30x1,5
<b>BG1</b>	52	54	96	33	38	ø50	G 1/8"	M36x1,5
<b>BG2</b>	63	67	110	40	38	ø50	G 1/8"	M42x1,5
<b>BG4</b>	85	93	137	54	38	ø63	G 1/8"	M50x1,5

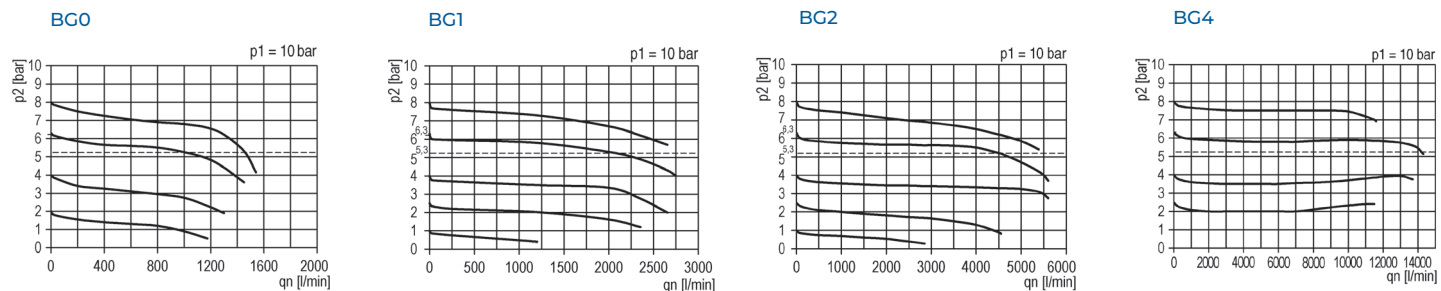
## Technical specifications

Designation	Size	Connection thread	flow P1=6bar; P2=6,3bar ΔP=1bar	weight	internal air consumption	lockable with a padlock
<b>KREG-014</b>	BG0	G 1/4"	1000 l/min	0.1641 kg	-	no
<b>KREG-114</b>	BG1	G 1/4"	2000 l/min	0.3684 kg	-	yes
<b>KREG-138</b>	BG1	G 3/8"	2500 l/min	0.3476 kg	-	yes
<b>KREG-238</b>	BG2	G 3/8"	4500 l/min	0.5726 kg	-	yes
<b>KREG-212</b>	BG2	G 1/2"	5200 l/min	0.5493 kg	-	yes
<b>KREG-434</b>	BG4	G 3/4"	14200 l/min	1.1075 kg	max. 1,5 l/min	yes
<b>KREG-41</b>	BG4	G 1"	14200 l/min	1.1075 kg	max. 1,5 l/min	yes

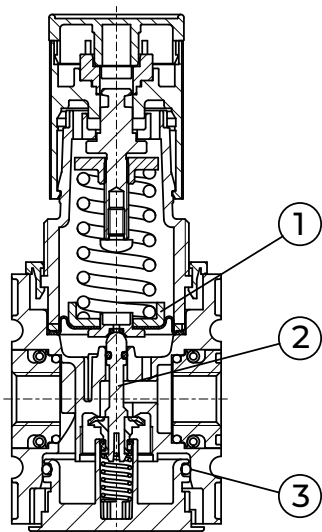
## Designation



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Material	Article type	Article type
	Spare parts consisting of:		0	KESA.0-1301	036979
1	1x membrane (1)	brass-NBR-POM	1	KESA.1-1311	035244
2	1x valve cone (5),	brass-NBR-PA6	2	KESA.2-1311	035225
3	1x o-ring (6)	NBR	4	KESA.4-1311	042038

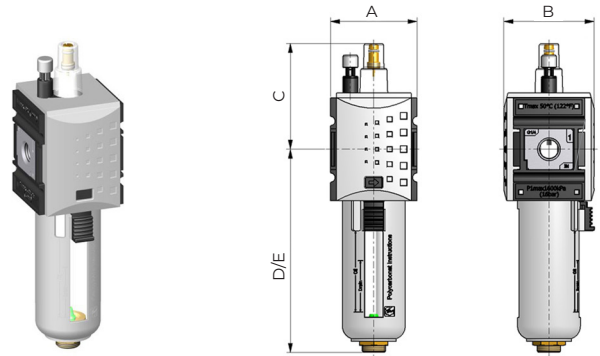
Accessories

Item no.	Designation	Item no.	Designation
035762	KKOP.0 coupling kit BG0	040566	KKOP-0A coupling adapter BG0/BG1
034271	KKOP.1 coupling kit BG1	040378	KKOP-1A coupling adapter BG1/BG2
034601	KKOP.2 coupling kit BG2	040379	KKOP-2A coupling adapter BG2/BG4
034831	KKOP.4 coupling kit BG4	052203	KBW.0-1225 mounting bracket BG0 with screws
035763	KKOP.0W coupling kit wall mounting BG0	052210	KBW.1-1225 mounting bracket BG1 with screws
034270	KKOP.1W coupling kit wall mounting BG1	052204	KBW.2-1225 mounting bracket BG2 with screws
034604	KKOP.2W coupling kit wall mounting BG2	034330	KBW.4-1225 mounting bracket BG4 with screws
034832	KKOP.4W coupling kit wall mounting BG4	035760	KBW.0-1227 mounting bracket for panel mounting BG0
040319	KKOP-014K coupling kit BG0 G1/4 for wall assembly	052275	KBW.1-1228 mounting bracket for panel mounting BG1
040327	KKOP-018K coupling kit BG0 G1/8 for wall assembly	052205	KBW.2-1227 mounting bracket for panel mounting BG2
040320	KKOP-114K coupling kit BG1 G1/4 for wall assembly	044020	KBW.1-1228-S mounting bracket with panel nut M36x1,5
040324	KKOP-138K coupling kit BG1 G3/8 for wall assembly	044022	KBW.2-1227-S mounting bracket with panel nut M42x1,5
040321	KKOP-238K coupling kit BG2 G3/8 for wall assembly	049414	C.00-34 panel nut M30x1,5 KS
040323	KKOP-212K coupling kit BG2 G1/2 for wall assembly	052237	SM.1 panel nut M36x1,5
040347	KKOP-234K coupling kit BG2 G3/4 for wall assembly	052238	SM.2 panel nut M42x1,5
040322	KKOP-434K coupling kit BG4 G3/4 for wall assembly	032263	VH.31 padlock with E11 closing, without key
030321	KKOP-41K coupling kit BG4 G1 for wall assembly	032264	VH.32 padlock with key and G1663 closing

# Lubricator

## Technical data

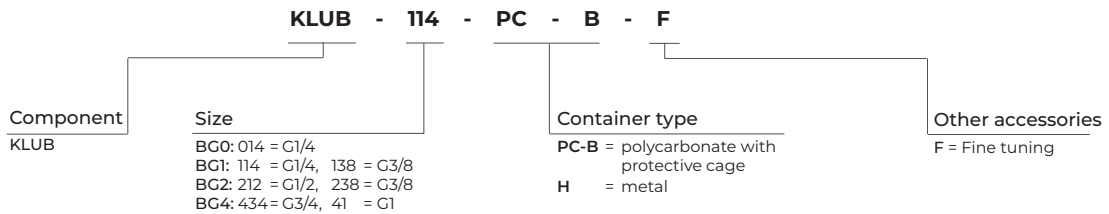
- Lubricator with automatic oil filling
- Oil suction under pressure possible (P max.: 10 bar)
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min.:
- Input pressure P1 max.: 16 bar; BG0 = 12 bar
- Installation position: vertical
- Oil type: CL32 according to DIN 51517 - ISO VG32
- Oil dosing at qv = 1000 l/min: 1-2 d/min
- Condensate container: PC with protective cage PA or metal container
- Dropper attachment: PC/PA
- Materials: body: PA66 GF60, seals: NBR



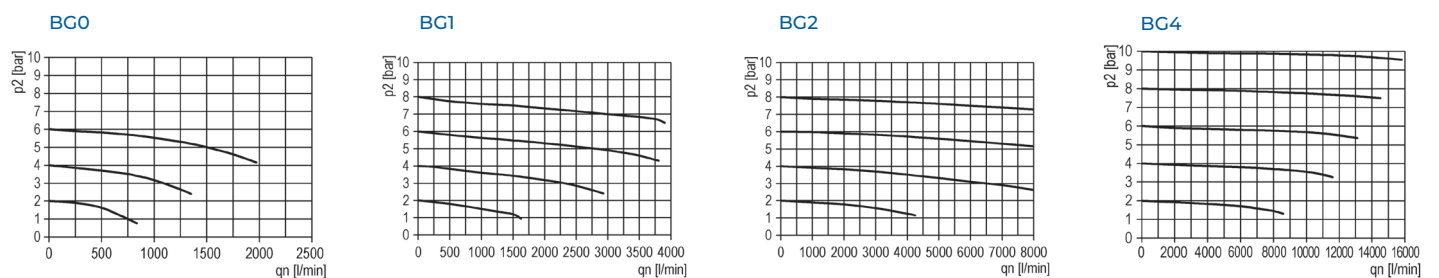
Symbol	Dimensions					
	A	B	C	D (PC bowl)	E (metal bowl)	
	<b>BG0</b>	43	48	58	98	87
	<b>BG1</b>	52	54	64	122	123
	<b>BG2</b>	63	67	70	140	145
	<b>BG4</b>	85	93	88	183	183

Technical specifications					
Designation	Size	Connection thread	flow P1=10bar; P2=6,3bar ΔP=1bar	weight lubricator with PC bowl	weight lubricator with metal bowl
<b>KLUB-014</b>	BG0	G 1/4"	1400 l/min	0,1485 kg	0,4523 kg
<b>KLUB-114</b>	BG1	G 1/4"	2800 l/min	0,2714 kg	0,4453 kg
<b>KLUB-138</b>	BG1	G3/8"	2800 l/min	0,2579 kg	0,4318 kg
<b>KLUB-238</b>	BG2	G3/8"	8000 l/min	0,4272 kg	0,6722 kg
<b>KLUB-212</b>	BG2	G1/2"	8000 l/min	0,4108 kg	0,6558 kg
<b>KLUB-434</b>	BG4	G3/4"	16000 l/min	0,9532 kg	1,4504 kg
<b>KLUB-41</b>	BG4	G1"	16000 l/min	0,8930 kg	1,3762 kg

## Designation

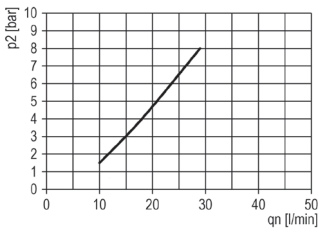


## Flow chart

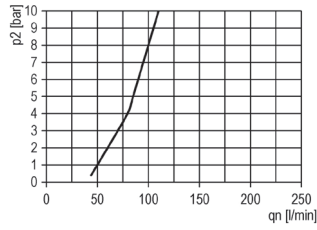


Oiler response limit

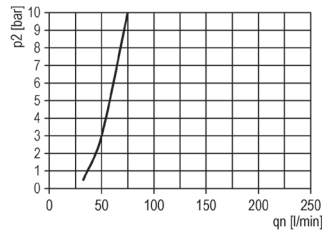
BG0



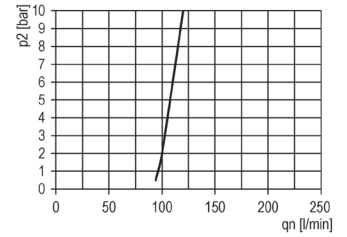
BG1



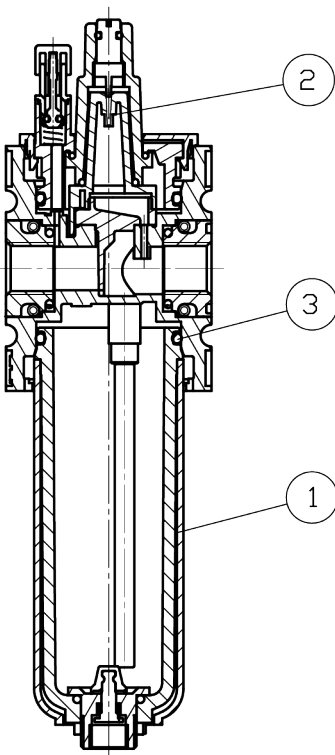
BG2



BG4



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	PC oil bowl with o-ring (3)	polycarbonate	0	L.00	013178
			1	BE.1 LUB	026241
	PC oil bowl with bowl guard and o-ring (3)		2	BE.2 LUB	028073
			4	BE.4 LUB	030310
1	metal bowl with o-ring (3)	metal	0	L.00-M	013179
			1	BE.1-H-LUB	027212
	metal oil bowl with visual display and o-ring (3)		2	BE.2-H-LUB	028566
			4	BE.4-H-LUB	033589
2	dome assembly	polycarbonate seals: NBR	0	ESA.0-1312	054979
			1	ESA.1-1312	027942
			2	ESA.1-1312	027942
			4	ESA.1-1312	027942
3	o-ring	NBR	0 - 4	-	-

Accessories

Item no. Designation

035762	KKOP.0	coupling kit BG0
034271	KKOP.1	coupling kit BG1
034601	KKOP.2	coupling kit BG2
034831	KKOP.4	coupling kit BG4
035763	KKOP.0W	coupling kit wall mounting BG0
034270	KKOP.1W	coupling kit wall mounting BG1
034604	KKOP.2W	coupling kit wall mounting BG2
034832	KKOP.4W	coupling kit wall mounting BG4
040319	KKOP-014K	coupling kit BG0 G1/4 for wall assembly
040327	KKOP-018K	coupling kit BG0 G1/8 for wall assembly
040320	KKOP-114K	coupling kit BG1 G1/4 for wall assembly
040324	KKOP-138K	coupling kit BG1 G3/8 for wall assembly
040321	KKOP-238K	coupling kit BG2 G3/8 for wall assembly
040323	KKOP-212K	coupling kit BG2 G1/2 for wall assembly
040347	KKOP-234K	coupling kit BG2 G3/4 for wall assembly
040322	KKOP-434K	coupling kit BG4 G3/4 for wall assembly
030321	KKOP-41K	coupling kit BG4 G1 for wall assembly

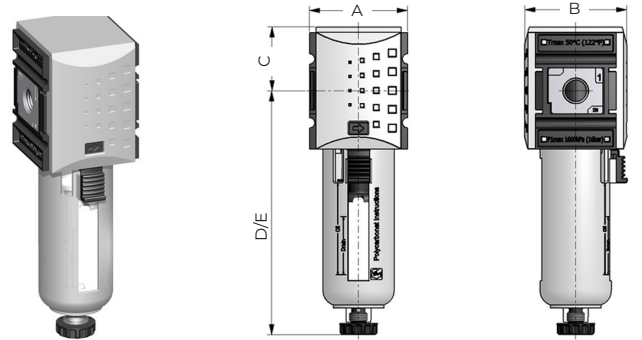
Item no. Designation

040566	KKOP-0A	coupling adapter BG0/BG1
040378	KKOP-1A	coupling adapter BG1/BG2
040379	KKOP-2A	coupling adapter BG2/BG4
052203	KBW.0-1225	mounting bracket BG0 with screws
052210	KBW.1-1225	mounting bracket BG1 with screws
052204	KBW.2-1225	mounting bracket BG2 with screws
034330	KBW.4-1225	mounting bracket BG4 with screws

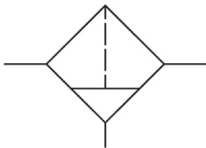
# Filter

## Technical data

- Sintered filter, centrifugal principle
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BG0 = 12 bar
- Installation position: vertical
- Filter fineness: 5 µm
- Condensate container: PC with protective cage PA or metal container
- Condensate drain: semi-automatic drain (HA) or fully automatic (AM / AMC)
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



## Symbol



## Dimensions

	A	B	C	D (HA)	E (AM)
<b>BG0</b>	43	48	27	105	143
<b>BG1</b>	52	54	34	130	145
<b>BG2</b>	63	67	43	147	163
<b>BG4</b>	85	93	58	189	206

## Technical specifications

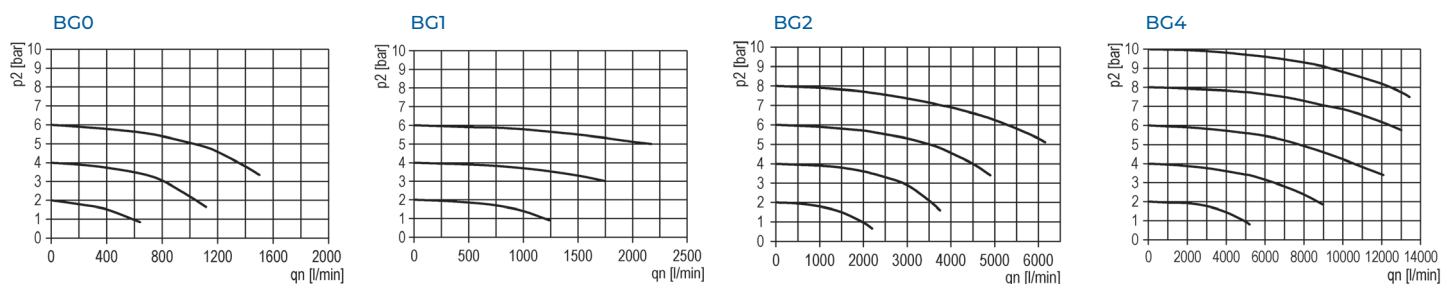
Designation	Size	Connection thread	Flow * P1=6 bar; ΔP=1bar	weight PC bowl with HA	weight PC bowl with AM	weight metal bowl with HA	weight metal bowl with AM
<b>KFIL-014</b>	BG0	G 1/4"	1000 l/min	0,128 kg	0,168 kg	0,200 kg	-
<b>KFIL-114</b>	BG1	G 1/4"	2000 l/min	0,250 kg	0,280 kg	0,443 kg	0,474 kg
<b>KFIL-138</b>	BG1	G3/8"	2000 l/min	0,237 kg	0,266 kg	0,430 kg	0,461 kg
<b>KFIL-238</b>	BG2	G3/8"	3500 l/min	0,415 kg	0,445 kg	0,686 kg	0,715 kg
<b>KFIL-212</b>	BG2	G1/2"	3500 l/min	0,399 kg	0,428 kg	0,663 kg	0,699 kg
<b>KFIL-434</b>	BG4	G3/4"	9000 l/min	0,887 kg	0,937 kg	1,412 kg	1,427 kg
<b>KFIL-41</b>	BG4	G1"	9000 l/min	0,855 kg	0,870 kg	1,345 kg	1,360 kg

## Designation

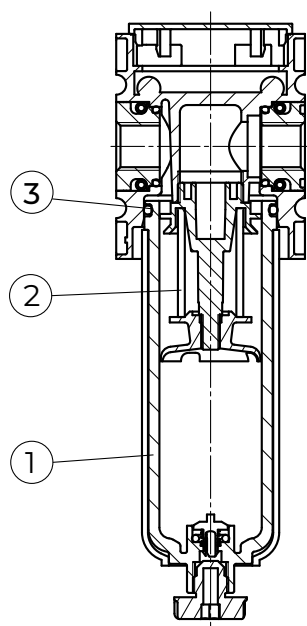
**KFIL - 114 - 5 - PC - B - HA**



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	PC condensate bowl with bowl guard, semi automatic drain (HA) and o-ring	polycarbonate	0	C.00-PC-HA	011972
			1	BE.1-PC-B-HA	026238
			2	BE.2-PC-B-HA	028069
			4	BE.4-PC-B-HA	030303
1	PC condensate bowl with bowl guard, fully automatic condensate drain (AM10) and o-ring	polycarbonate	0	C.11-PC-AM	004429
			2	BE.1-PC-B-AM	026239
			2	BE.2-PC-B-AM	028070
			4	BE.4-PC-B-AM	030304
1	PC condensate bowl with bowl guard, fully automatic condensate drain (AM10/NC) and o-ring	polycarbonate	0	C.11-AMC	024937
			1	BE.1-AMC	026240
			2	BE.2-AMC	028071
			4	BE.4-AMC	030308
1	metal condensate bowl with visual display, with semi automatic drain (HA) and o-ring	metal	0	C.00-M-HA	012870
			1	BE.1-H-HA	027210
			2	BE.2-H-HA	028560
			4	BE.4-H-HA	033579
1	metal bowl with visual display, fully automatic condensate drain (AM10) and o-ring	metal	0	C.00-M-AM	031836
			1	BE.1-H-AM	027211
			2	BE.2-H-AM	028563
			4	BE.4-H-AM	033583
1	metal bowl with visual display, fully automatic condensate drain (AM10/NC) and o-ring	metal	0	C.00-M-AMC	033859
			1	BE.1-H-AMC	027214
			2	BE.2-H-AMC	028564
			4	BE.4-H-AMC	033586
2	filter element 5 µm	Cellpor	0 + 1	C.00-26	052187
			2	C.22-26	050551
			4	FE.4-560	032171
2	filter element 40 µm	Cellpor	0 + 1	C.00-26	052187
			2	C.22-26	050551
			4	FE.4-560	032171
3	o-ring	NBR	-	-	-

Accessories

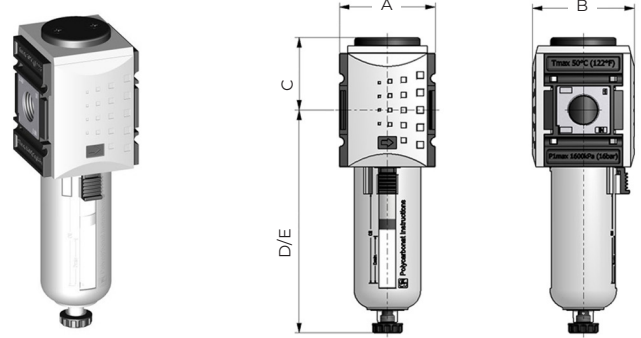
Item no.	Designation	
035762	KKOP.0	coupling kit BG0
034271	KKOP.1	coupling kit BG1
034601	KKOP.2	coupling kit BG2
034831	KKOP.4	coupling kit BG4
035763	KKOP.0W	coupling kit wall mounting BG0
034270	KKOP.1W	coupling kit wall mounting BG1
034604	KKOP.2W	coupling kit wall mounting BG2
034832	KKOP.4W	coupling kit wall mounting BG4
040319	KKOP-014K	coupling kit BG0 G1/4 for wall assembly
040327	KKOP-018K	coupling kit BG0 G1/8 for wall assembly
040320	KKOP-114K	coupling kit BG1 G1/4 for wall assembly
040324	KKOP-138K	coupling kit BG1 G3/8 for wall assembly
040321	KKOP-238K	coupling kit BG2 G3/8 for wall assembly
040323	KKOP-212K	coupling kit BG2 G1/2 for wall assembly
040347	KKOP-234K	coupling kit BG2 G3/4 for wall assembly
040322	KKOP-434K	coupling kit BG4 G3/4 for wall assembly
030321	KKOP-41K	coupling kit BG4 G1 for wall assembly

Item no.	Designation	
040566	KKOP-0A	coupling adapter BG0/BG1
040378	KKOP-1A	coupling adapter BG1/BG2
040379	KKOP-2A	coupling adapter BG2/BG4
052203	KBW.0-1225	mounting bracket BG0 with screws
052210	KBW.1-1225	mounting bracket BG1 with screws
052204	KBW.2-1225	mounting bracket BG2 with screws
034330	KBW.4-1225	mounting bracket BG4 with screws

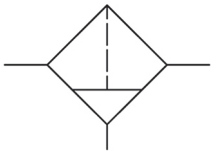
# Prefilter

## Technical data

- Pre-filter for removing solid contaminants down to 0.3 µm
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar; BG0 = 12 bar
- Installation position: vertical
- Filter fineness: 0,3 µm
- Dust separation: 99,999%
- Condensate container: PC with protective cage PA or metal container
- Condensate drain: semi-automatic drain (HA) or fully automatic (AM / AMC)
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



## Symbol



## Dimensions

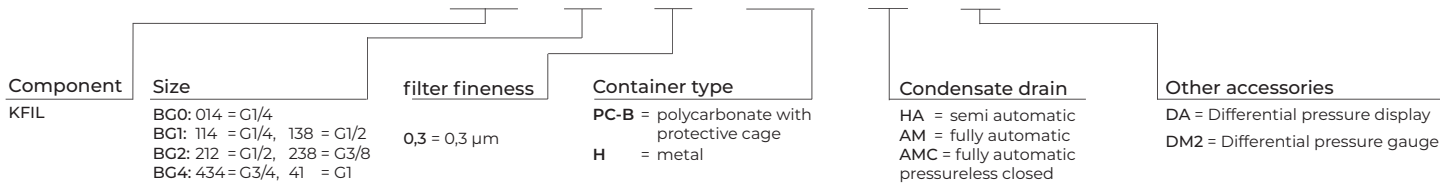
	A	B	C	D (HA)	E (AM)
<b>BG0</b>	43	48	27	105	143
<b>BG1</b>	52	54	39	130	147
<b>BG2</b>	63	67	48	147	163
<b>BG4</b>	85	93	63	189	206

## Technical specifications

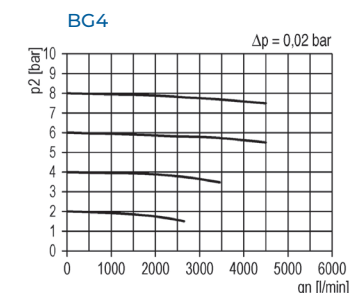
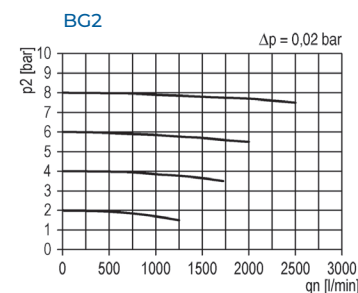
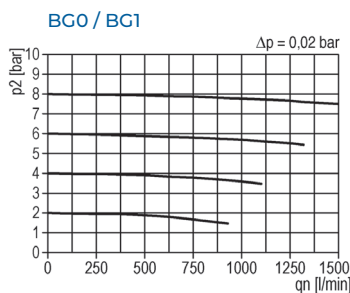
Designation	Size	Connection thread	Flow * P1=6,3bar, ΔP=1bar	weight PC bowl with HA	weight PC bowl with AM	weight metal bowl with HA	weight metal bowl with AM
<b>KPFI-014</b>	BG0	G 1/4"	140 l/min	0,133 kg	0,173 kg	0,210 kg	-
<b>KPFI-114</b>	BG1	G 1/4"	300 l/min	0,282 kg	0,306 kg	0,475 kg	0,500 kg
<b>KPFI-138</b>	BG1	G 3/8"	300 l/min	0,269 kg	0,293 kg	0,468 kg	0,494 kg
<b>KPFI-238</b>	BG2	G 3/8"	500 l/min	0,306 kg	0,336 kg	0,563 kg	0,603 kg
<b>KPFI-212</b>	BG2	G 1/2"	500 l/min	0,290 kg	0,319 kg	0,554 kg	0,597 kg
<b>KPFI-434</b>	BG4	G 3/4"	1500 l/min	0,985 kg	1,034 kg	1,518 kg	1,531 kg
<b>KPFI-41</b>	BG4	G 1"	1500 l/min	0,953 kg	0,967 kg	1,450 kg	1,464 kg

## Designation

**KPFI - 114 - 0,3 - PC - B - HA - DA**



## Flow chart



Cross - sectional view / spare parts		Pos.	Designation	Material	Size	Article type	Item no.
	1	PC condensate bowl with bowl guard, semi automatic drain (HA) and o-ring	polycarbonate	0	C.00-PC-HA	011972	
				1	BE.1-PC-B-HA	026238	
				2	BE.2-PC-B-HA	028069	
				4	BE.4-PC-B-HA	030303	
	1	PC condensate bowl with bowl guard, fully automatic condensate drain (AM10) and o-ring	polycarbonate	0	C.11-PC-AM	004429	
				1	BE.1-PC-B-AM	026239	
				2	BE.2-PC-B-AM	028070	
				4	BE.4-PC-B-AM	030304	
	1	PC condensate bowl with bowl guard, fully automatic condensate drain (AM10/NC) and o-ring	polycarbonate	0	C.11-AMC	024937	
				1	BE.1-AMC	026240	
				2	BE.2-AMC	028071	
				4	BE.4-AMC	030308	
	1	metal condensate bowl with visual display, with semi automatic drain (HA) and o-ring	metal	0	C.00-M-HA	012870	
				1	BE.1-H-HA	027210	
				2	BE.2-H-HA	028560	
				4	BE.4-H-HA	033579	
	1	metal bowl with visual display, fully automatic condensate drain (AM10) and o-ring	metal	0	C.00-M-AM	031836	
				1	BE.1-H-AM	027211	
				2	BE.2-H-AM	028563	
4				BE.4-H-AM	033583		
1	metal bowl with visual display, fully automatic condensate drain (AM10/NC) and o-ring	metal	0	C.00-M-AMC	033859		
			1	BE.1-H-AMC	027214		
			2	BE.2-H-AMC	028564		
			4	BE.4-H-AMC	033586		
2	pre filter element 0,3 µm	Cellpor	0	V 23/35	030405		
			1	V 23/40	010457		
			1	V 23/70	026261		
			2	V 28/67	028196		
			4	V 40/100	032173		
3	o-ring	NBR	-	-	-		

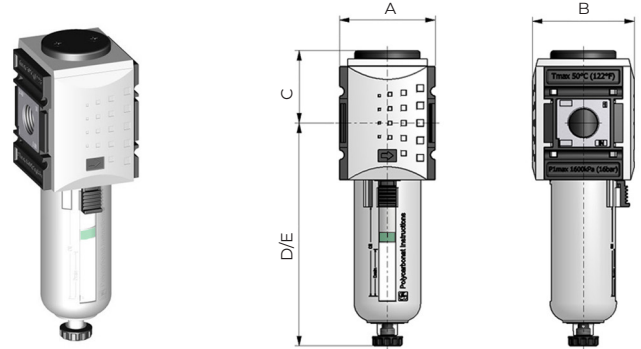
**Accessories**

Item no.	Designation	Item no.	Designation
035762	KKOP.0 coupling kit BG0	040566	KKOP-0A coupling adapter BG0/BG1
034271	KKOP.1 coupling kit BG1	040378	KKOP-1A coupling adapter BG1/BG2
034601	KKOP.2 coupling kit BG2	040379	KKOP-2A coupling adapter BG2/BG4
034831	KKOP.4 coupling kit BG4		
035763	KKOP.0W coupling kit wall mounting BG0	052203	KBW.0-1225 mounting bracket BG0 with screws
034270	KKOP.1W coupling kit wall mounting BG1	052210	KBW.1-1225 mounting bracket BG1 with screws
034604	KKOP.2W coupling kit wall mounting BG2	052204	KBW.2-1225 mounting bracket BG2 with screws
034832	KKOP.4W coupling kit wall mounting BG4	034330	KBW.4-1225 mounting bracket BG4 with screws
040319	KKOP-014K coupling kit BG0 G1/4 for wall assembly	027477	DA.1 Differential pressure display Δp=0,35bar
040327	KKOP-018K coupling kit BG0 G1/8 for wall assembly	052397	DM 2 Differential pressure gauge 0-0,5 bar
040320	KKOP-114K coupling kit BG1 G1/4 for wall assembly		
040324	KKOP-138K coupling kit BG1 G3/8 for wall assembly		
040321	KKOP-238K coupling kit BG2 G3/8 for wall assembly		
040323	KKOP-212K coupling kit BG2 G1/2 for wall assembly		
040347	KKOP-234K coupling kit BG2 G3/4 for wall assembly		
040322	KKOP-434K coupling kit BG4 G3/4 for wall assembly		
030321	KKOP-41K coupling kit BG4 G1 for wall assembly		

# Finefilter

## Technical data

- Fine filter for removing oil, water and solid contaminants down to 0,01 µm
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar, BG0 = 12 bar
- Installation position: vertical
- Filter fineness: 0,01 µm
- Dust separation: 99,999%
- Condensate container: PC with protective cage PA or metal container
- Condensate drain: semi-automatic drain (HA) or fully automatic (AM / AMC)
- Materials: Body: PA66 GF60, diaphragm and seals: NBR

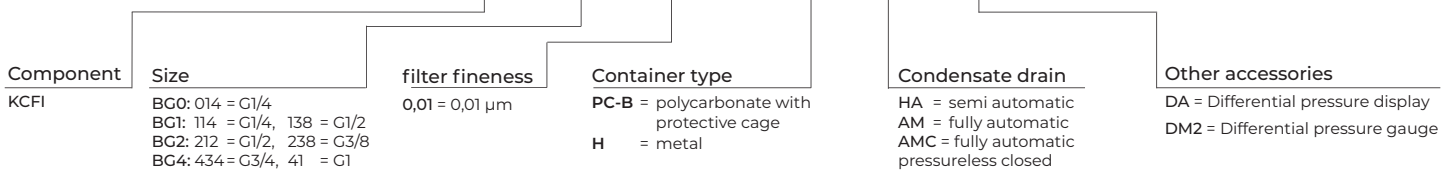


Symbol	Dimensions					
	A	B	C	D (HA)	E (AM)	
	<b>BG0</b>	43	48	27	105	143
	<b>BG1</b>	52	54	39	130	147
	<b>BG2</b>	63	67	48	147	163
	<b>BG4</b>	85	93	63	189	206

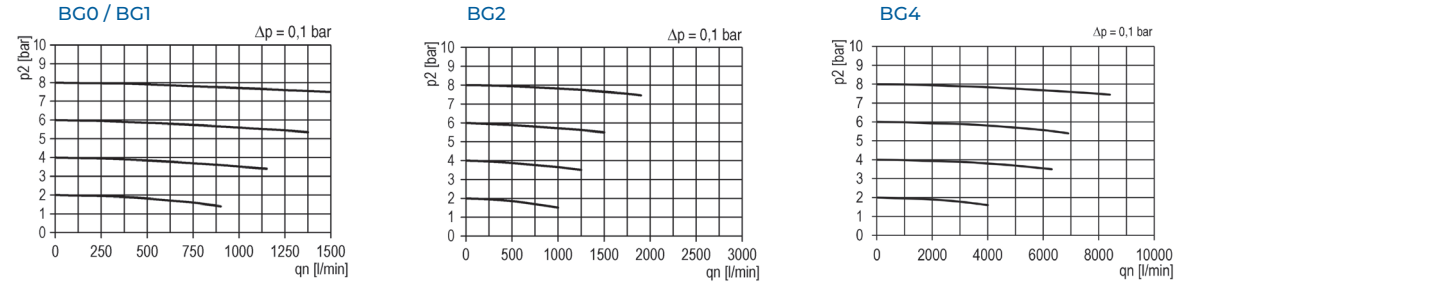
Technical specifications							
Designation	Size	Connection thread	Flow * P1=6,3bar; ΔP=1bar	weight PC bowl with HA	weight PC bowl with AM	weight metal bowl with HA	weight metal bowl with AM
<b>KCFI-014</b>	BG0	G 1/4"	140 l/min	0,133 kg	0,173 kg	0,210 kg	-
<b>KCFI-114</b>	BG1	G 1/4"	300 l/min	0,282 kg	0,306 kg	0,475 kg	0,500 kg
<b>KCFI-138</b>	BG1	G3/8"	300 l/min	0,269 kg	0,293 kg	0,468 kg	0,494 kg
<b>KCFI-238</b>	BG2	G3/8"	500 l/min	0,306 kg	0,336 kg	0,563 kg	0,603 kg
<b>KCFI-212</b>	BG2	G1/2"	500 l/min	0,290 kg	0,319 kg	0,554 kg	0,597 kg
<b>KCFI-434</b>	BG4	G3/4"	1500 l/min	0,985 kg	1,034 kg	1,518 kg	1,531 kg
<b>KCFI-41</b>	BG4	G1"	1500 l/min	0,953 kg	0,967 kg	1,450 kg	1,464 kg

## Designation

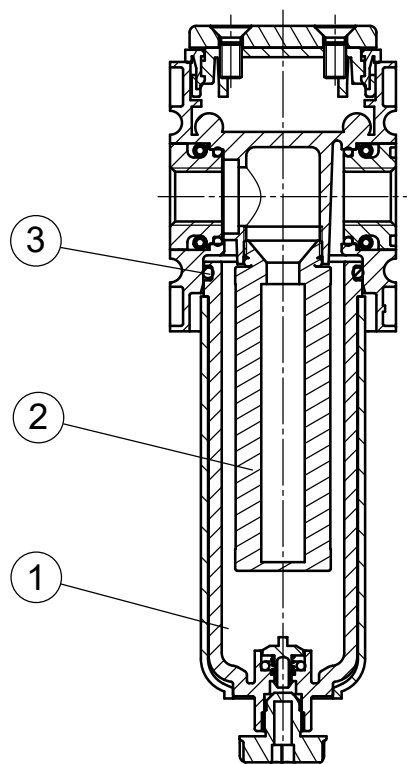
**KCFI - 114 - 0,01 - PC - B - HA - DA**



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	PC condensate bowl with bowl guard, semi automatic drain (HA) and o-ring	polycarbonate	0	C.00-PC-HA	011972
			1	BE.1-PC-B-HA	026238
			2	BE.2-PC-B-HA	028069
			4	BE.4-PC-B-HA	030303
1	PC condensate bowl with bowl guard, fully automatic condensate drain (AM10) and o-ring	polycarbonate	0	C.11-PC-AM	004429
			1	BE.1-PC-B-AM	026239
			2	BE.2-PC-B-AM	028070
			4	BE.4-PC-B-AM	030304
1	PC condensate bowl with bowl guard, fully automatic condensate drain (AM10/NC) and o-ring	polycarbonate	0	C.11-AMC	024937
			1	BE.1-AMC	026240
			2	BE.2-AMC	028071
			4	BE.4-AMC	030308
1	metal condensate bowl with visual display, with semi automatic drain (HA) and o-ring	metal	0	C.00-M-HA	012870
			1	BE.1-H-HA	027210
			2	BE.2-H-HA	028560
			4	BE.4-H-HA	033579
1	metal bowl with visual display, fully automatic condensate drain (AM10) and o-ring	metal	0	C.00-M-AM	031836
			1	BE.1-H-AM	027211
			2	BE.2-H-AM	028563
			4	BE.4-H-AM	033583
1	metal bowl with visual display, fully automatic condensate drain (AM10/NC) and o-ring	metal	0	C.00-M-AMC	033859
			1	BE.1-H-AMC	027214
			2	BE.2-H-AMC	028564
			4	BE.4-H-AMC	033586
2	fine filter element 0,01 µm	Cellpor	0	X 23/35	030405
			1	X 23/40	010457
			1	X 23/70	026261
			2	X 28/67	028196
			4	X 40/100	032173
3	o-ring	NBR	-	-	-

Accessories

Item no. Designation

035762	KKOP.0	coupling kit BG0
034271	KKOP.1	coupling kit BG1
034601	KKOP.2	coupling kit BG2
034831	KKOP.4	coupling kit BG4
035763	KKOP.0W	coupling kit wall mounting BG0
034270	KKOP.1W	coupling kit wall mounting BG1
034604	KKOP.2W	coupling kit wall mounting BG2
034832	KKOP.4W	coupling kit wall mounting BG4
040319	KKOP-014K	coupling kit BG0 G1/4 for wall assembly
040327	KKOP-018K	coupling kit BG0 G1/8 for wall assembly
040320	KKOP-114K	coupling kit BG1 G1/4 for wall assembly
040324	KKOP-138K	coupling kit BG1 G3/8 for wall assembly
040321	KKOP-238K	coupling kit BG2 G3/8 for wall assembly
040323	KKOP-212K	coupling kit BG2 G1/2 for wall assembly
040347	KKOP-234K	coupling kit BG2 G3/4 for wall assembly
040322	KKOP-434K	coupling kit BG4 G3/4 for wall assembly
030321	KKOP-41K	coupling kit BG4 G1 for wall assembly

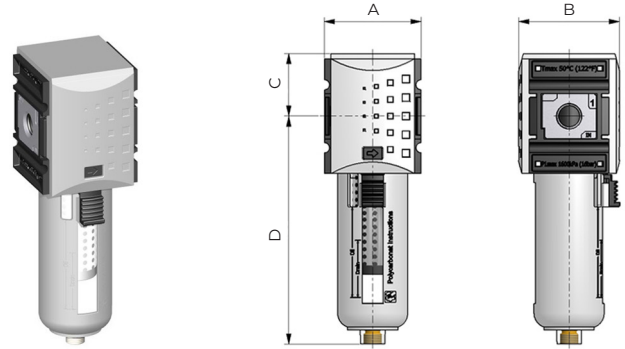
Item no. Designation

040566	KKOP-0A	coupling adapter BG0/BG1
040378	KKOP-1A	coupling adapter BG1/BG2
040379	KKOP-2A	coupling adapter BG2/BG4
052203	KBW.0-1225	mounting bracket BG0 with screws
052210	KBW.1-1225	mounting bracket BG1 with screws
052204	KBW.2-1225	mounting bracket BG2 with screws
034330	KBW.4-1225	mounting bracket BG4 with screws
027477	DA.1	Differential pressure display $\Delta p=0,35\text{bar}$
052397	DM 2	Differential pressure gauge 0-0,5 bar

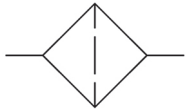
# Activated carbon filter

## Technical data

- Activated carbon filter for absorbing oil vapour from compressed air and gases; a fine filter must be installed as a pre-filter.
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min.: 1,5 bar
- Input pressure P1 max.: 16 bar, BG0 = 12 bar
- Installation position: vertical
- residual oil content: 0,005 µm
- Condensate container: PC with protective cage PA or metal container
- Condensate drain: without
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



## Symbol



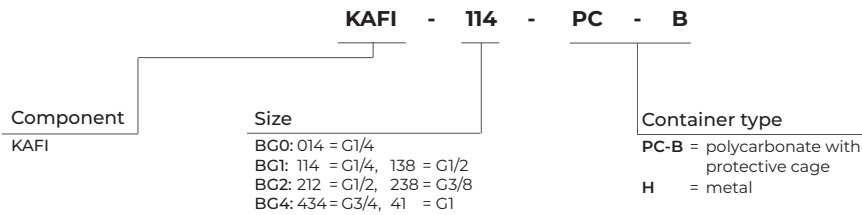
## Dimensions

	A	B	C	D
<b>BG0</b>	43	48	27	98
<b>BG1</b>	52	54	34	123
<b>BG2</b>	63	67	43	141
<b>BG4</b>	85	93	58	184

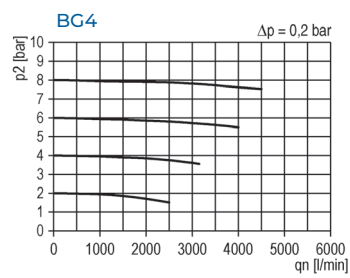
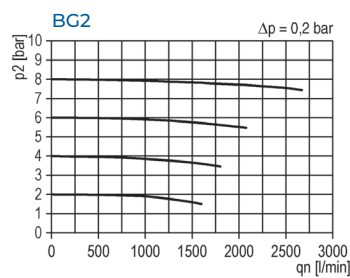
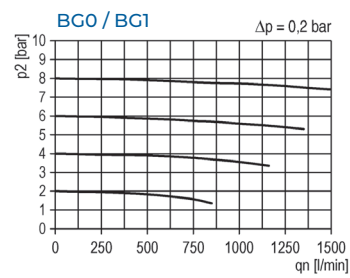
## Technical specifications

Designation	Size	Connection thread	Flow * P1=6,3bar, ΔP=1bar	weight PC bow	weight metal bowl
<b>KAFI-014</b>	BG0	G 1/4"	470 l/min	0,135 kg	0,203 kg
<b>KAFI-114</b>	BG1	G 1/4"	470 l/min	0,260 kg	0,452 kg
<b>KAFI-138</b>	BG1	G 1/2"	470 l/min	0,246 kg	0,430 kg
<b>KAFI-238</b>	BG2	G 3/8"	1700 l/min	0,415 kg	0,679 kg
<b>KAFI-212</b>	BG2	G 1/2"	1700 l/min	0,399 kg	0,663 kg
<b>KAFI-434</b>	BG4	G 3/4"	2500 l/min	0,887 kg	1,412 kg
<b>KAFI-41</b>	BG4	G 1"	2500 l/min	0,855 kg	1,345 kg

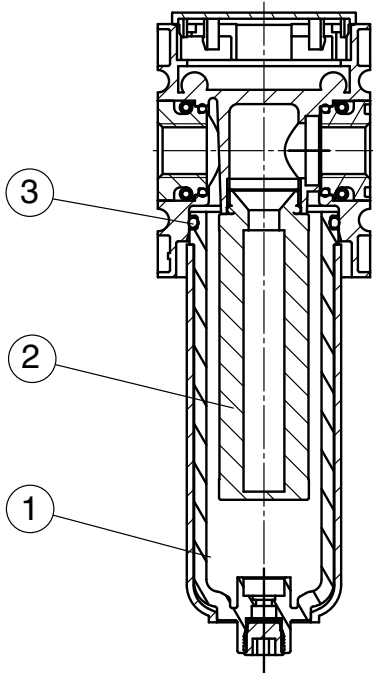
## Designation



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	PC condensate bowl with bowl guard and o-ring	polycarbonate	0	L.00	013178
			1	BE.1 c	026242
			2	BE.2 c	028072
			4	BE.4 c	032060
1	metal condensate bowl with visual display and o-ring	metal	0	L.00 M	013179
			1	BE.1 H c	027213
			2	BE.2 H c	028565
			4	BE.4 H c	33587
2	activated carbon filter element with o-ring	activated carbon	0	A.23-60	014071
			1	A 23-70	010335
			2	A 28/90	028198
			4	A 40/123	032175
3	O-Ring	NBR	-	-	-

Accessories

Item no. Designation

035762	KKOP.0	coupling kit BG0
034271	KKOP.1	coupling kit BG1
034601	KKOP.2	coupling kit BG2
034831	KKOP.4	coupling kit BG4
035763	KKOP.0W	coupling kit wall mounting BG0
034270	KKOP.1W	coupling kit wall mounting BG1
034604	KKOP.2W	coupling kit wall mounting BG2
034832	KKOP.4W	coupling kit wall mounting BG4

040319	KKOP-014K	coupling kit BG0 G1/4 for wall assembly
040327	KKOP-018K	coupling kit BG0 G1/8 for wall assembly
040320	KKOP-114K	coupling kit BG1 G1/4 for wall assembly
040324	KKOP-138K	coupling kit BG1 G3/8 for wall assembly
040321	KKOP-238K	coupling kit BG2 G3/8 for wall assembly
040323	KKOP-212K	coupling kit BG2 G1/2 for wall assembly
040347	KKOP-234K	coupling kit BG2 G3/4 for wall assembly
040322	KKOP-434K	coupling kit BG4 G3/4 for wall assembly
030321	KKOP-41K	coupling kit BG4 G1 for wall assembly

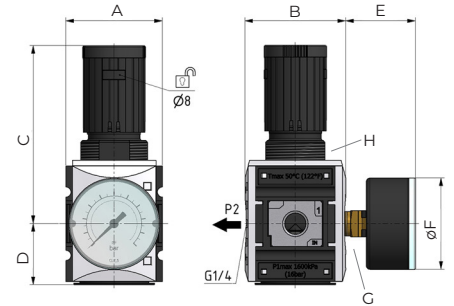
Item no. Designation

040566	KKOP-0A	coupling adapter BG0/BG1
040378	KKOP-1A	coupling adapter BG1/BG2
040379	KKOP-2A	coupling adapter BG2/BG4
052203	KBW.0-1225	mounting bracket BG0 with screws
052210	KBW.1-1225	mounting bracket BG1 with screws
052204	KBW.2-1225	mounting bracket BG2 with screws
034330	KBW.4-1225	mounting bracket BG4 with screws

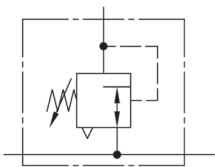
# Pressure regulator with continuous pressure supply

## Technical data

- membrane pressure regulator with secondary venting
- Locking: lockable with plug-in lock or padlock
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 max.: 16 bar
- Installation position: arbitrary
- Materials: Body: PA66 GF60, spring cover: POM, diaphragm and seals: NBR,



## Symbol



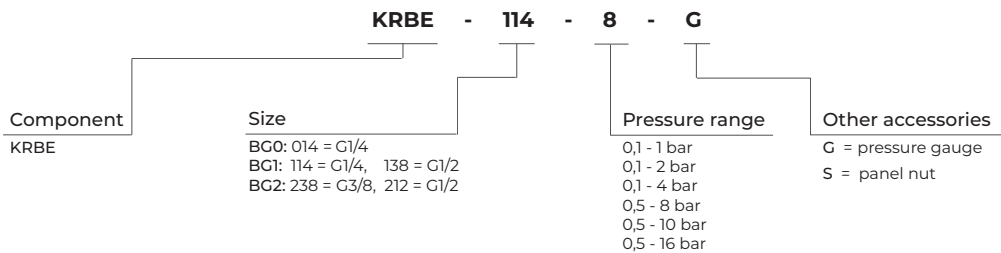
## Dimensions

	A	B	C	D	E	F	G pressure gauge thread	H panel thread
<b>BG0</b>	43	48	68	25	12	-	-	M30x1,5
<b>BG1</b>	52	54	96	33	38	ø50	G 1/8"	M36x1,5
<b>BG2</b>	63	67	110	40	38	ø50	G 1/8"	M42x1,5

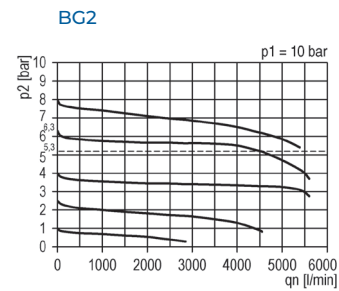
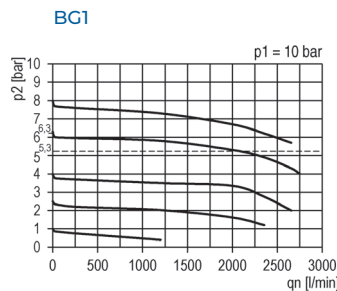
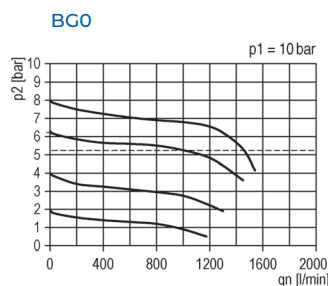
## Technical specifications

Designation	Size	Connection thread	P2 connection	flow P1=bar, P2=6,3bar; ΔP=1bar	weight	internal air consumption	lockable with a padlock
<b>KRBE-014</b>	BG0	G 1/4"	G 1/4"	1000 l/min	0.1728 kg	-	no
<b>KRBE-114</b>	BG1	G 1/4"	G 1/4"	2000 l/min	0.3145 kg	-	yes
<b>KRBE-138</b>	BG1	G3/8"	G 1/4"	2000 l/min	0.3145 kg	-	yes
<b>KRBE-238</b>	BG2	G3/8"	G 3/8"	4500 l/min	1.1075 kg	no	yes
<b>KRBE-212</b>	BG2	G1/2"	G 3/8"	5200 l/min	0.5493 kg	no	yes

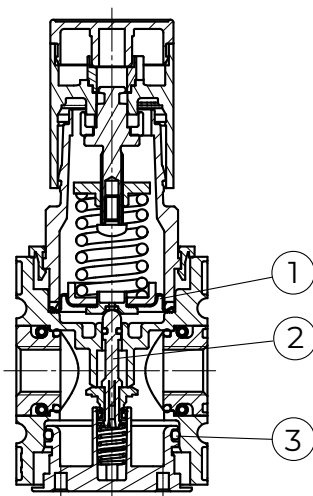
## Designation



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1 2 3	Spare parts consisting of	brass-NBR-PA6 brass-NBR-POM NBR	0	KESA.0-1301	036979
	membrane (1)		1	KESA.1-1311	035244
	valve cone (5)		2	KESA.2-1311	035225
	o-ring (6)				

Accessories

Item no. Designation

035762	KKOP.0	coupling kit BG0
034271	KKOP.1	coupling kit BG1
034601	KKOP.2	coupling kit BG2
034831	KKOP.4	coupling kit BG4
035763	KKOP.0W	coupling kit wall mounting BG0
034270	KKOP.1W	coupling kit wall mounting BG1
034604	KKOP.2W	coupling kit wall mounting BG2
034832	KKOP.4W	coupling kit wall mounting BG4
040319	KKOP-014K	coupling kit BG0 G1/4 for wall assembly
040327	KKOP-018K	coupling kit BG0 G1/8 for wall assembly
040320	KKOP-114K	coupling kit BG1 G1/4 for wall assembly
040324	KKOP-138K	coupling kit BG1 G3/8 for wall assembly
040321	KKOP-238K	coupling kit BG2 G3/8 for wall assembly
040323	KKOP-212K	coupling kit BG2 G1/2 for wall assembly
040347	KKOP-234K	coupling kit BG2 G3/4 for wall assembly
040322	KKOP-434K	coupling kit BG4 G3/4 for wall assembly
030321	KKOP-41K	coupling kit BG4 G1 for wall assembly

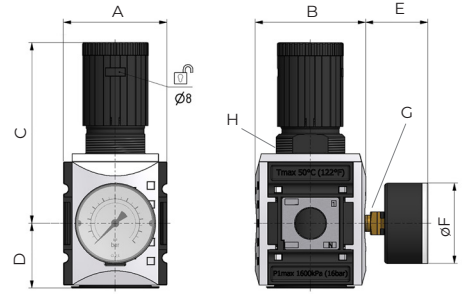
Item no. Designation

040566	KKOP-0A	coupling adapter BG0/BG1
040378	KKOP-1A	coupling adapter BG1/BG2
040379	KKOP-2A	coupling adapter BG2/BG4
052203	KBW.0-1225	mounting bracket BG0 with screws
052210	KBW.1-1225	mounting bracket BG1 with screws
052204	KBW.2-1225	mounting bracket BG2 with screws
034330	KBW.4-1225	mounting bracket BG4 with screws
035760	KBW.0-1227	mounting bracket for panel mounting BG0
052275	KBW.1-1228	mounting bracket for panel mounting BG1
052205	KBW.2-1227	mounting bracket for panel mounting BG2
044020	KBW.1-1228-S	mounting bracket with panel nut M36x1,5
044022	KBW.2-1227-S	mounting bracket with panel nut M42x1,5
049414	C.00-34	panel nut M30x1,5 KS
052237	SM.1	panel nut M36x1,5
052238	SM.2	panel nut M42x1,5
032263	VH.31	padlock with E11 closing, without key
032264	VH.32	padlock with key and G1663 closing

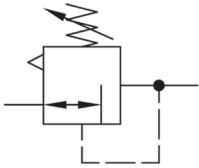
# Precision pressure regulator

## Technical data

- membrane pressure regulator with secondary venting
- Locking: lockable with plug-in lock or padlock
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 max.: 16 bar
- Materials: Body: PA66 GF60, spring cover: POM, diaphragm and seals: NBR,



## Symbol



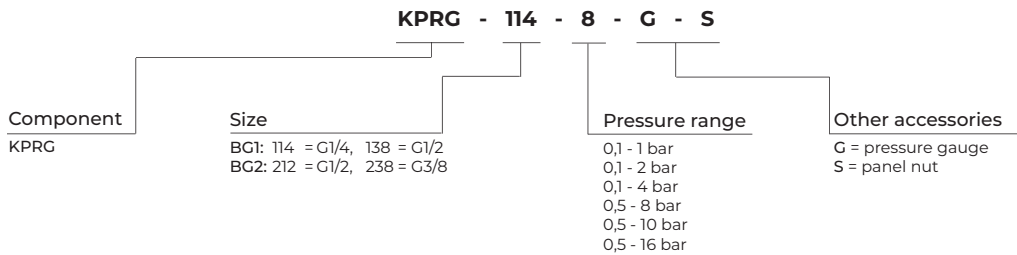
## Dimensions

	A	B	C	D	E	F	G pressure gauge thread	H panel thread
<b>BG1</b>	52	54	96	33	38	ø50	G 1/8"	M36x1,5
<b>BG2</b>	63	67	110	40	38	ø50	G 1/8"	M42x1,5

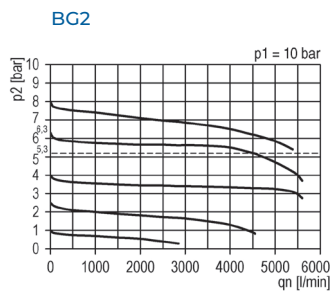
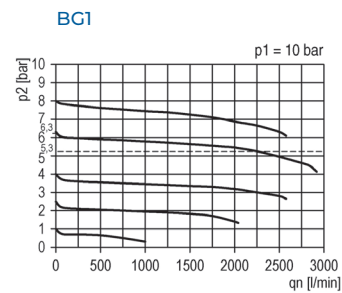
## Technical specifications

Designation	Size	Connection thread	flow P1=6bar; P2=6,3bar ΔP=1bar	weight without gauge	internal air consumption	lockable with a padlock
<b>KPRG-114</b>	BG1	G 1/4"	2200 l/min	0.2994 kg	-	yes
<b>KPRG-138</b>	BG1	G 3/8"	2700 l/min	0.2859 kg	-	yes
<b>KPRG-238</b>	BG2	G 3/8"	4300 l/min	0.5074 kg	-	yes
<b>KPRG-212</b>	BG2	G 1/2"	5000 l/min	0.5074 kg	-	yes

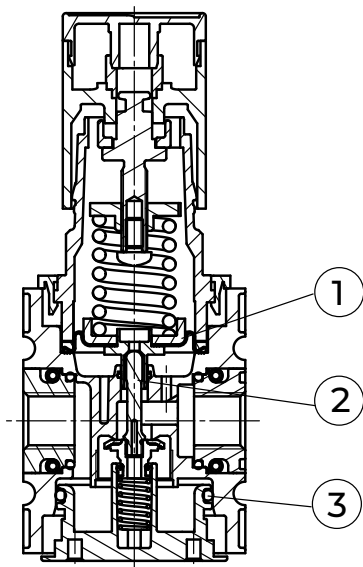
## Designation



## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1	Ersatzteilsatz bestehend aus: 1x membrane	brass-NBR-POM	1	KESA.1-1311	035224
2	1x valve cone	brass-NBR-PA6	2	KESA.2-1311	035225
3	1x o-ring	NBR			

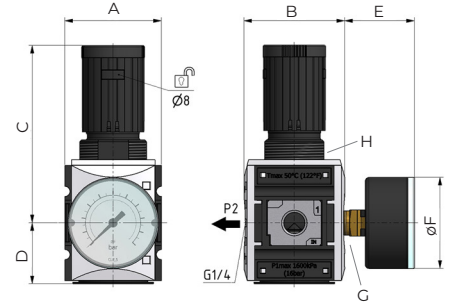
Accessories

Item no.	Designation	Item no.	Designation
034271	KKOP.1 coupling kit BG1	040378	KKOP-1A coupling adapter BG1/BG2
034601	KKOP.2 coupling kit BG2	040379	KKOP-2A coupling adapter BG2/BG4
034270	KKOP.1W coupling kit wall mounting BG1	052210	KBW.1-1225 mounting bracket BG1 with screws
034604	KKOP.2W coupling kit wall mounting BG2	052204	KBW.2-1225 mounting bracket BG2 with screws
040320	KKOP-114K coupling kit BG1 G1/4 for wall assembly	052275	KBW.1-1228 mounting bracket for panel mounting BG1
040324	KKOP-138K coupling kit BG1 G3/8 for wall assembly	052205	KBW.2-1227 mounting bracket for panel mounting BG2
040321	KKOP-238K coupling kit BG2 G3/8 for wall assembly	044020	KBW.1-1228-S mounting bracket with panel nut M36x1,5
040323	KKOP-212K coupling kit BG2 G1/2 for wall assembly	044022	KBW.2-1227-S mounting bracket with panel nut M42x1,5
040347	KKOP-234K coupling kit BG2 G3/4 for wall assembly	052237	SM.1 panel nut M36x1,5
		052238	SM.2 panel nut M42x1,5
		032263	VH.31 padlock with E11 closing, without key
		032264	VH.32 padlock with key and G1663 closing

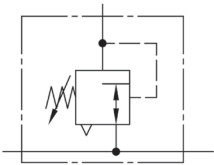
# Precision pressure regulator with continuous pressure supply

## Technical data

- membrane pressure regulator with secondary venting
- Locking: lockable with plug-in lock or padlock
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 max.: 16 bar
- Installation position: arbitrary
- Materials: Body: PA66 GF60, spring cover: POM, diaphragm and seals: NBR,



## Symbol



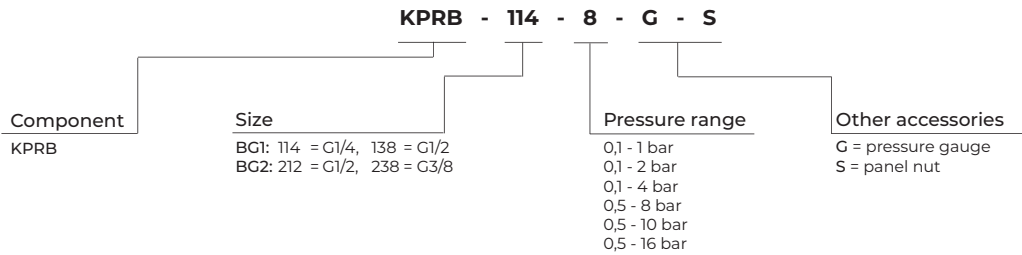
## Dimensions

	A	B	C	D	E	F	G pressure gauge thread	H panel thread
<b>BG1</b>	52	54	96	33	38	ø50	G 1/8"	M36x1,5
<b>BG2</b>	63	67	110	40	38	ø50	G 1/8"	M42x1,5

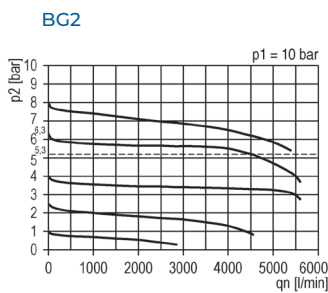
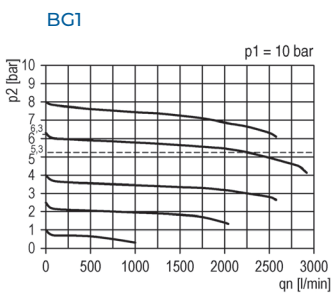
## Technical specifications

Designation	Size	Connection thread	flow P1=6bar; P2=6,3bar ΔP=1bar	weight without gauge	internal air consumption	lockable with a padlock
<b>KPRB-114</b>	BG1	G 1/4"	2200 l/min	0.2994 kg	-	yes
<b>KPRB-138</b>	BG1	G 3/8"	2700 l/min	0.2859 kg	-	yes
<b>KPRB-238</b>	BG2	G 3/8"	4300 l/min	0.5074 kg	-	yes
<b>KPRB-212</b>	BG2	G 1/2"	5000 l/min	0.5074 kg	-	yes

## Designation



## Flow chart

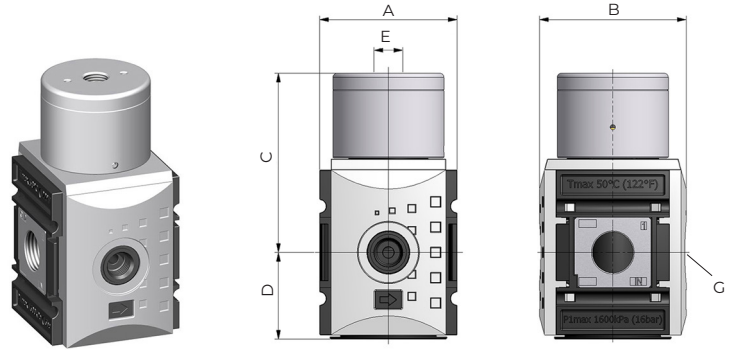




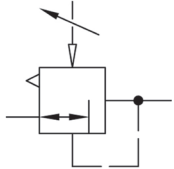
# Pressure regulator pneumatically remote-controlled

## Technical data

- membrane pressure regulator with secondary venting
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 max.: 16 bar
- Installation position: arbitrary
- Materials: Body: PA66 GF60, diaphragm and seals: NBR,



## Symbol



## Dimensions

	A	B	C	D	E Control air connection	G pressure gauge thread
<b>BG1</b>	52	54	72	33	G 1/8"	G 1/8"
<b>BG2</b>	63	67	82	40	G 1/4"	G 1/8"
<b>BG4</b>	85	93	91	54	G 1/4"	G 1/8"

## Technical specifications

Designation	Size	Connection thread	Control air connection	flow * P1=6,3bar; ΔP=1bar	weight	internal air consumption	lockable with a padlock
<b>KREI-114</b>	BG1	G 1/4"	G 1/8	2700 l/min	0.3145 Kg	-	nein
<b>KREI-138</b>	BG1	G3/8"	G 1/8	2700 l/min	0.3145 Kg	-	nein
<b>KREI-212</b>	BG2	G1/2"	G 1/4	6750 l/min	0.5493 Kg	-	nein
<b>KREI-434</b>	BG4	G3/4"	G 1/4	14600 l/min	1.0727 Kg	max. 1,5 l/min	nein
<b>KREI-41</b>	BG4	G1"	G 1/4	14600 l/min	1.0055 Kg	max. 1,5 l/min	nein

## Designation

### KREI - 114

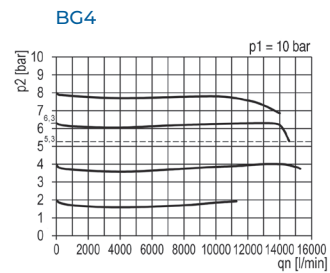
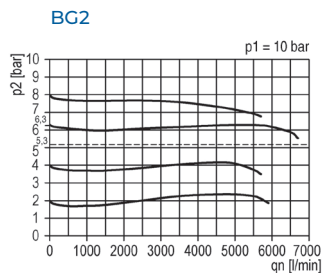
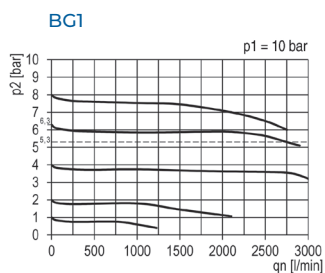
#### Size

- BG0: 014 = G1/4
- BG1: 114 = G1/4, 138 = G1/2
- BG2: 212 = G1/2, 238 = G3/8
- BG4: 434 = G3/4, 41 = G1

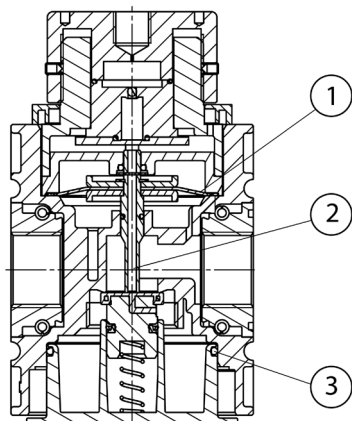
#### Pressure range

- 0,1 - 1 bar
- 0,1 - 2 bar
- 0,1 - 4 bar
- 0,5 - 8 bar
- 0,5 - 10 bar
- 0,5 - 16 bar

## Flow chart



Cross - sectional view / spare parts



Pos.	Designation	Material	Size	Article type	Item no.
1 2 3	Spare parts consisting of membrane valve cone o-ring	brass-NBR-POM brass-NBR-PA6 NBR	0	-	-
			1	KESA.1-1311	035244
			2	KESA.2-1311	035225
			4	KESA.4-1311	042038

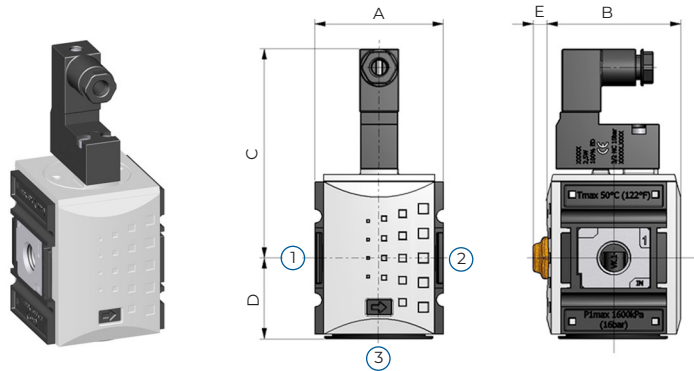
Accessories

Item no.	Designation	Item no.	Designation
034271	KKOP.1 coupling kit BG1	040378	KKOP-1A coupling adapter BG1/BG2
034601	KKOP.2 coupling kit BG2	040379	KKOP-2A coupling adapter BG2/BG4
034831	KKOP.4 coupling kit BG4	052210	KBW.1-1225 mounting bracket BG1 with screws
034270	KKOP.1W coupling kit wall mounting BG1	052204	KBW.2-1225 mounting bracket BG2 with screws
034604	KKOP.2W coupling kit wall mounting BG2	034330	KBW.4-1225 mounting bracket BG4 with screws
034832	KKOP.4W coupling kit wall mounting BG4		
040320	KKOP-114K coupling kit BG1 G1/4 for wall assembly		
040324	KKOP-138K coupling kit BG1 G3/8 for wall assembly		
040321	KKOP-238K coupling kit BG2 G3/8 for wall assembly		
040323	KKOP-212K coupling kit BG2 G1/2 for wall assembly		
040347	KKOP-234K coupling kit BG2 G3/4 for wall assembly		
040322	KKOP-434K coupling kit BG4 G3/4 for wall assembly		
030321	KKOP-41K coupling kit BG4 G1 for wall assembly		

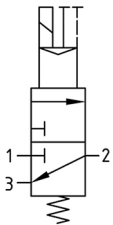
## 3/2 Directional control valve, electric operated

### Technical data

- 3/2-way poppet valve
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min. 2 bar; P1 max. 10 bar
- Power supply: 24 V=
- Relative operation cycle: 100%
- Performance: 2,5 W
- Protection class: IP65 according to DIN 40050
- Electrical connection: Cable plug EN 175301-803, form B number of poles 2 + PE (included)
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



### Symbol



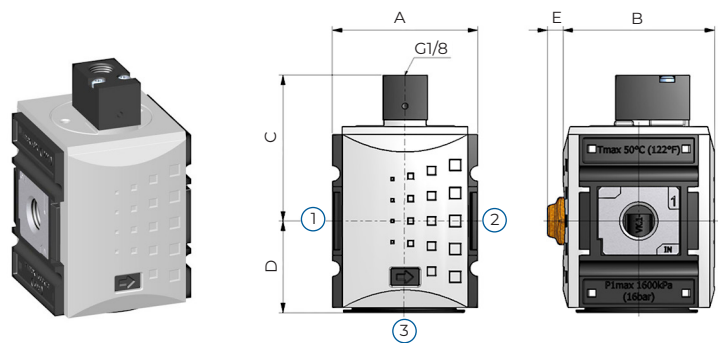
### Technical specifications

Designation	Size	Connection thread	air exhaust	A	B	C	D	E	flow 1 → 2 l/min
KSOV-014	BG0	G 1/4"	G 1/4	43	48	93	45	-	2000
KSOV-114	BG1	G 1/4"	G 1/4	52	54	85	33	6	2000
KSOV-138	BG1	G3/8"	G 1/4	52	54	85	33	6	2000
KSOV-238	BG2	G3/8"	G 1/2	63	67	94	57	-	4300
KSOV-212	BG2	G1/2"	G 1/2	63	67	94	57	-	4300
KSOV-434	BG4	G3/4"	G 1/2	85	93	111	102	-	12500
KSOV-41	BG4	G1"	G 1/2	85	93	111	102	-	12500

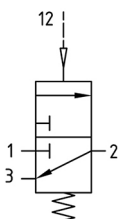
## 3/2 Directional control valve, pneumatically operated

### Technical data

- 3/2-way poppet valve
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min. 2 bar; P1 max. 10 bar
- Power supply: pneumatic
- Relative operation cycle: 100%
- Performance: 2,5 W
- Protection class: IP65 according to DIN 40050
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



### Symbol



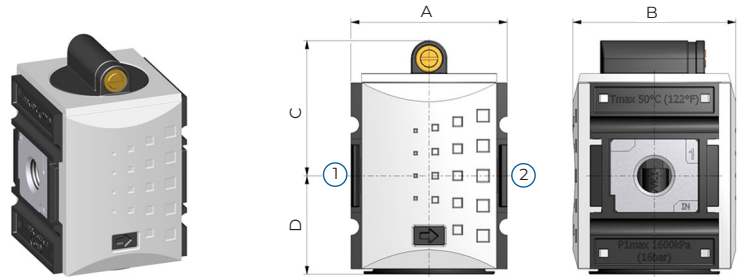
### Technical specifications

Designation	Size	Connection thread	air exhaust	A	B	C	D	E	flow 1 → 2 l/min
KSOV-014	BG0	G 1/4"	G 1/4	43	48	60	45	-	2000
KSOV-114	BG1	G 1/4"	G 1/4	52	54	52	33	6	2000
KSOV-138	BG1	G3/8"	G 1/4	52	54	52	33	6	2000
KSOV-238	BG2	G3/8"	G 1/2	63	67	61	57	-	4300
KSOV-212	BG2	G1/2"	G 1/2	63	67	61	57	-	4300
KSOV-434	BG4	G3/4"	G 1/2	85	93	78	102	-	12500
KSOV-41	BG4	G1"	G 1/2	85	93	78	102	-	12500

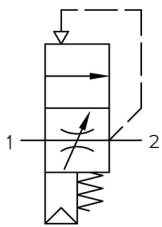
## Soft start valve with adjustable filling time

### Technical data

- poppet valve, actuated by secondary pressure
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min. 2,5 bar
- Input pressure P1 max. 16 bar (BG0 = 12 bar)
- Relative operation cycle: 100%
- Switching pressure: 50% P1 (only for closed systems)
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



### Symbol

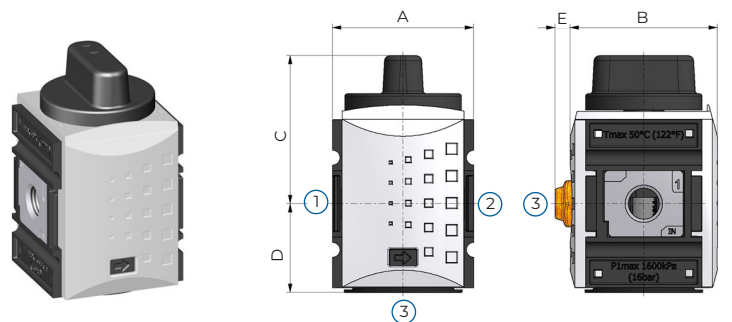


Designation		Size	Connection thread	A	B	C	D	flow l/min
KSSV-014		BG0	G 1/4"	43	48	53	28	2000
KSSV-114		BG1	G 1/4"	52	54	45	33	1900
KSSV-138		BG1	G3/8"	52	54	45	33	1900
KSSV-238		BG2	G3/8"	63	67	54	58	4400
KSSV-212		BG2	G1/2"	63	67	54	58	4400
KSSV-434		BG4	G3/4"	85	93	58	54	10000
KSSV-41		BG4	G1"	85	93	58	54	10000

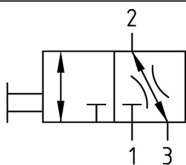
## Ball valve

### Technical data

- 3/2 directional poppet valve, operated by toggle, 3-way lock
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 max. 16 bar (BG0 = 12 bar)
- Locking: Lockable with padlock
- Operation: Toggle 90° rotatable
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



### Symbol

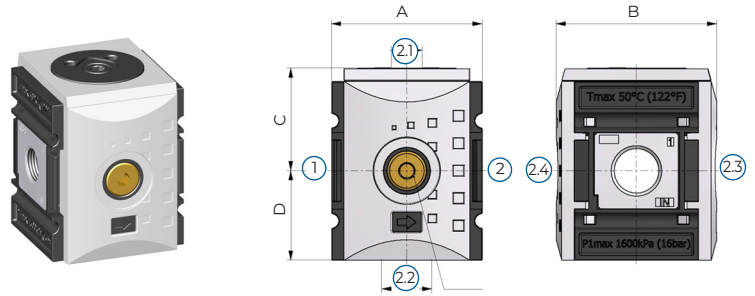


Designation	Size	Connection thread	air exhaust bottom 3	air exhaust back 3	A	B	C	D	E	flow 1 + 2
KBAV-014	BG0	G 1/4"	G 1/4	-	43	48	51	36	-	2300 l/min
KBAV-114	BG1	G 1/4"	-	G 1/4	52	54	55	33	6	1900 l/min
KBAV-138	BG1	G3/8"	-	G 1/4	52	54	55	99	6	1900 l/min
KBAV-238	BG2	G3/8"	G 1/2	-	63	67	70	92	-	11000 l/min
KBAV-212	BG2	G1/2"	G 1/2	-	63	67	70	92	-	11000 l/min
KBAM-434	BG4	G3/4"	G 3/4	-	85	93	94	117	-	25000 l/min
KBAM-41	BG4	G1"	G 3/4	-	85	93	94	117	-	25000 l/min

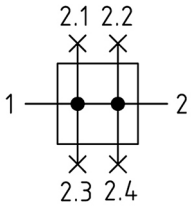
# Distributor

## Technical data

- Cross distributor
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 max.: 16 bar (BG0 = 12 bar)
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



### Symbol



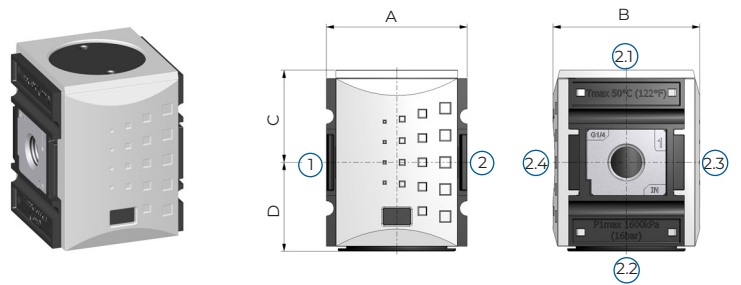
### Dimensions

Designation	Size	Connection thread	air exhaust top 2.1	air exhaust bottom 2.2	air exhaust front 2.3	air exhaust back 2.4	A	B	C	D	flow 1 → 2 l/min
<b>KDIS-014</b>	BG0	G 1/4"	G 1/4	G 1/4	-	-	43	48	29	28	2700
<b>KDIS-114</b>	BG1	G 1/4"	G 1/4	G 1/4	G 1/4	-	52	54	35	31	2700
<b>KDIS-138</b>	BG1	G3/8"	G 1/4	G 1/4	G 1/4	-	52	54	35	31	3600
<b>KDIS-238</b>	BG2	G3/8"	G 1/4	G 3/8	G 3/8	G 3/8	63	67	43	38	7250
<b>KDIS-212</b>	BG2	G1/2"	G 1/4	G 3/8	G 3/8	G 3/8	63	67	43	38	7250
<b>KDIS-434</b>	BG4	G3/4"	G 3/4	G 3/4	-	-	85	93	59	51	18000
<b>KDIS-41</b>	BG4	G1"	G 3/4	G 3/4	-	-	85	93	59	51	18000

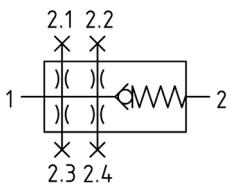
# Non return valve

## Technical data

- Poppet valve, spring-loaded
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure: P1 max. 16 bar (BG0 = 12 bar)
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



### Symbol



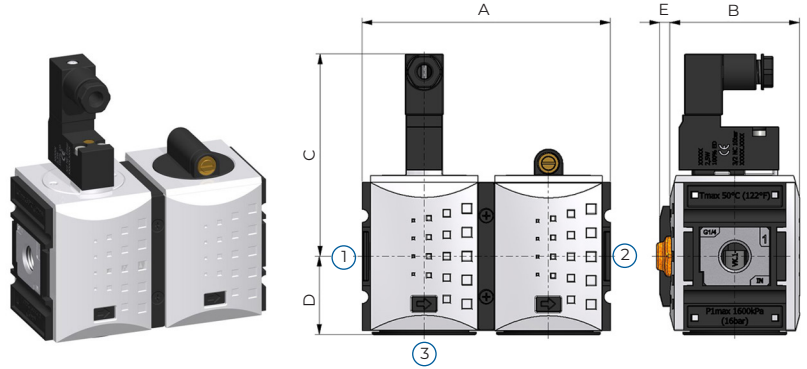
### Dimensions

Designation	Size	Con-nection thread	air ex-haust top 2.1	air ex-haust bottom 2.2	air ex-haust front 2.3	air ex-haust back 2.4	A	B	C	D	flow 1 → 2 l/min
<b>KREV-014</b>	BG0	G 1/4"	-	G 1/4	-	-	43	48	27	39	800 l/min
<b>KREV-114</b>	BG1	G 1/4"	-	-	-	G 1/4	52	54	34	33	1250 l/min
<b>KREV-138</b>	BG1	G3/8"	-	-	-	G 1/4	52	54	34	33	1250 l/min
<b>KREV-238</b>	BG2	G3/8"	G 1/4	G 1/2	G 3/8	G 3/8	63	67	43	38	4500 l/min
<b>KREV-212</b>	BG2	G1/2"	G 1/4	G 1/2	G 3/8	G 3/8	63	67	43	38	4500 l/min
<b>KREV-434</b>	BG4	G3/4"	-	-	-	-	85	93	58	54	16000 l/min
<b>KREV-41</b>	BG4	G1"	-	-	-	-	85	93	58	54	16000 l/min

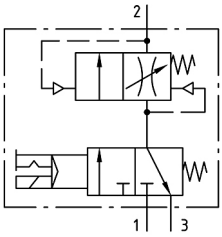
## Filling unit electric operated

### Technical data

- poppet valve
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min. 2,5 bar, P1 max. 10 bar
- Power supply: 24 V= (alternatively: 115V/50Hz, 230V/50Hz)
- Relative operation cycle: 100%
- Performance: 2,5 W
- Protection class: IP65 according to DIN 40050
- Electrical connection: Cable plug EN 175301-803, form B number of poles 2 + PE (included)
- Materials: Body: PA66 GF60, diaphragm and seals: NBR



### Symbol



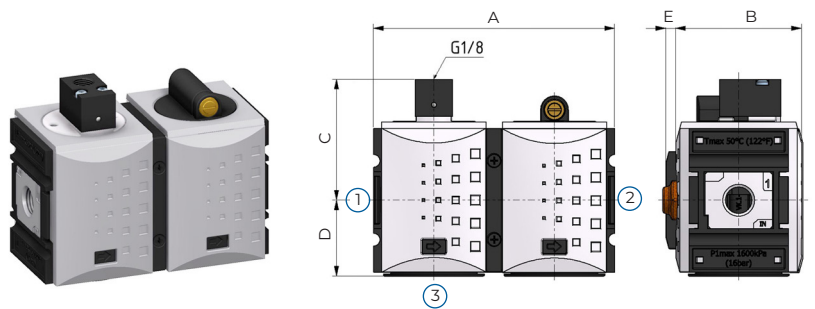
### Dimensions

Designation	Size	Connection thread	air exhaust	A	B	C	D	E	flow 1 → 2
K2SA-014	BG0	G 1/4"	G 1/4	86	48	93	37	6	1300
K2SA-114	BG1	G 1/4"	G 1/4	104	54	85	33	4	1300
K2SA-138	BG1	G 3/8"	G 1/4	104	54	85	33	4	1300
K2SA-238	BG2	G 3/8"	G 1/2	126	67	94	58	5	3400
K2SA-212	BG2	G 1/2"	G 1/2	126	67	94	58	5	3400
K2SA-434	BG4	G 3/4"	G 1/2	170	93	111	67	5	8750
K2SA-41	BG4	G 1"	G 1/2	170	93	111	67	5	8750

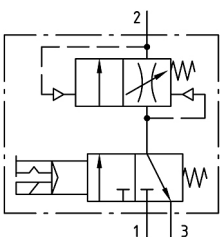
## Filling unit pneumatic operated

### Technical data

- poppet valve
- Installation position: arbitrary
- Medium: Compressed air, neutral gases
- Temperature area: -10 °C - +50 °C
- Input pressure P1 min. 2,5 bar, P1 max. 10 bar
- Power supply: pneumatic
- Relative operation cycle: 100%
- Performance: 2,5 W
- Protection class: IP65 according to DIN 40050
- Materials: Body: PA66 GF60, diaphragm and seals: NBR

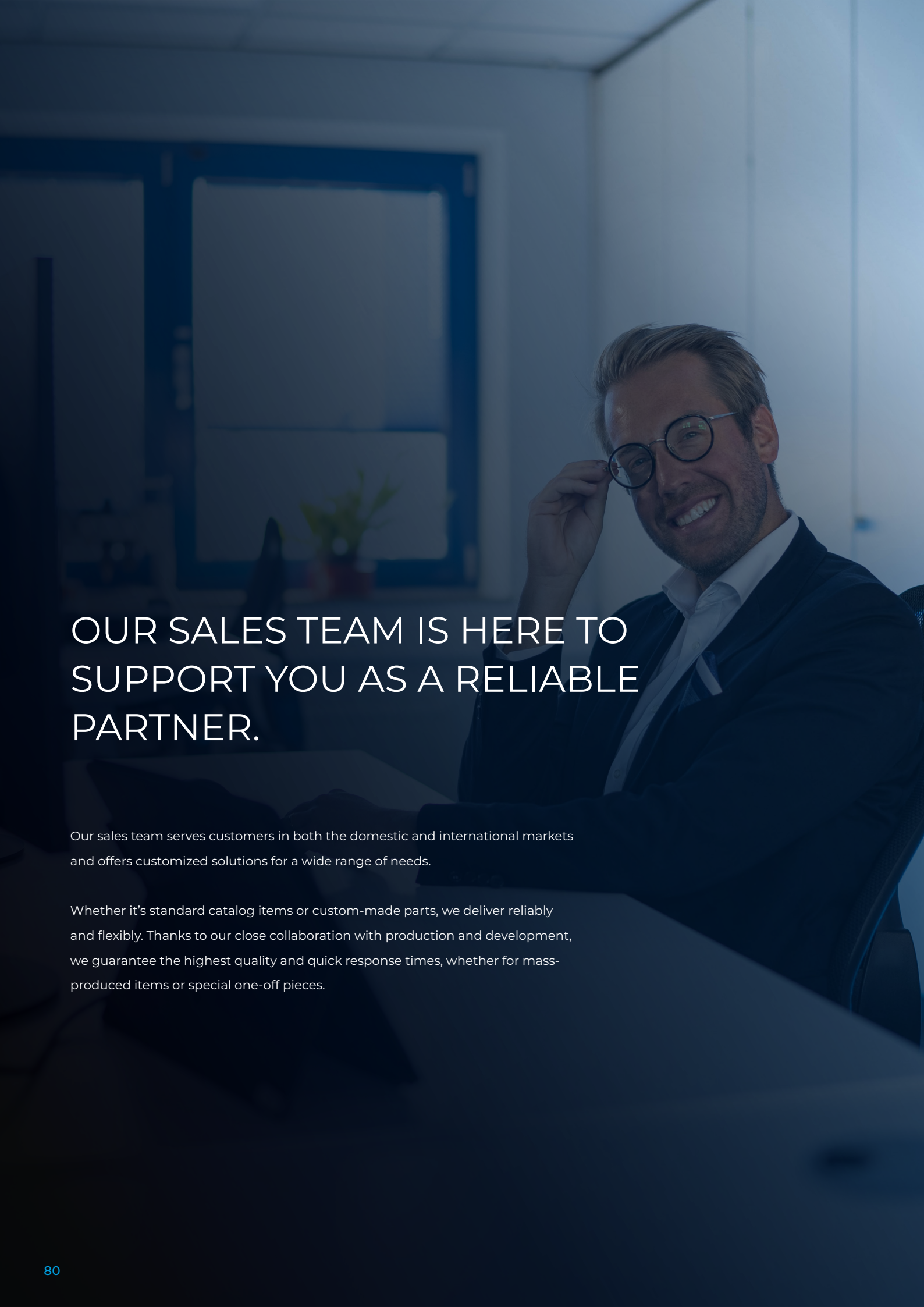


### Symbol



### Dimensions

Designation	Size	Connection thread	air exhaust	A	B	C	D	E	flow 1 → 2 /min
K2SA-014 I	BG0	G 1/4"	G 1/4	86	48	93	37	6	1300
K2SA-114 I	BG1	G 1/4"	G 1/4	104	54	85	33	4	1300
K2SA-138 I	BG1	G 3/8"	G 1/4	104	54	85	33	4	1300
K2SA-238 I	BG2	G 3/8"	G 1/2	126	67	94	58	5	3400
K2SA-212 I	BG2	G 1/2"	G 1/2	126	67	94	58	5	3400
K2SA-434 I	BG4	G 3/4"	G 1/2	170	93	111	67	5	8750
K2SA-41 I	BG4	G 1"	G 1/2	170	93	111	67	5	8750

A man with short blonde hair and glasses, wearing a dark suit jacket over a light-colored shirt and tie, is sitting at a desk in an office. He is smiling and looking towards the camera, with his right hand resting on his glasses. The background shows a blurred office environment with a window and some plants.

## OUR SALES TEAM IS HERE TO SUPPORT YOU AS A RELIABLE PARTNER.

Our sales team serves customers in both the domestic and international markets and offers customized solutions for a wide range of needs.

Whether it's standard catalog items or custom-made parts, we deliver reliably and flexibly. Thanks to our close collaboration with production and development, we guarantee the highest quality and quick response times, whether for mass-produced items or special one-off pieces.

## Product Series

### FEATURES



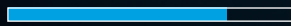
Weight  
medium



Modularity  
medium



Temperature-resistant  
-10°C to +60°C (optional -40°C)



Connection sizes  
up to G3/4"



Resilience  
very high



Flow  
high



# PRECISION REGULATOR.

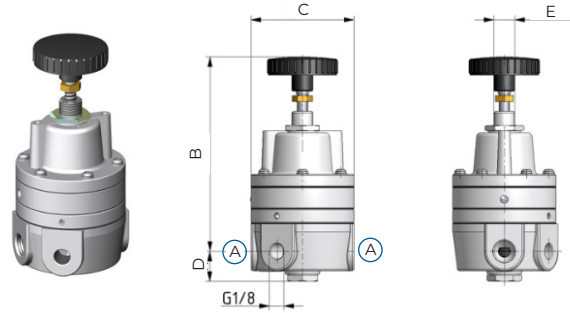
Our precision compressed air regulators set the standard for outstanding adjustability and control accuracy, while also delivering high flow rates. These regulators are specifically designed to deliver the highest levels of precision and reliability in demanding industrial environments.

With their various series and corresponding material designs, they offer complete flexibility while ensuring operational reliability.

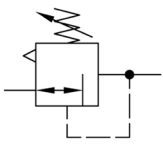
## FDR.02 | Precision pressure regulator

### Technical data

- Precision pressure regulator
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: < 2,2 l/min at Pe 5 bar, < 3,0 l/min at Pe 7 bar, < 4,1 l/min at Pe 10 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 600g



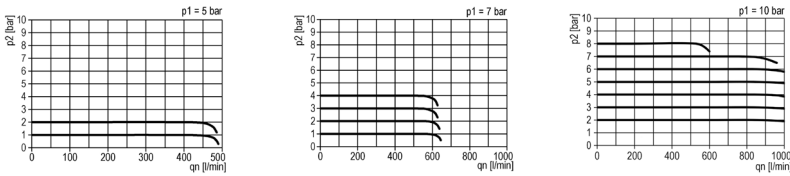
### Symbol



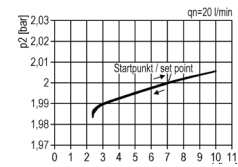
### Dimensions

Designation	Control range	Connection thread A	B	C	D	E	air exhaust	flow l/min	accessories
<b>FDR.02-B2</b>	0,05-2 bar	G 1/4"	109	58	17	M12x1	G 1/8	450	mounting bracket FDR.02-52
<b>FDR.02-B4</b>	0,05-4 bar	G 1/4"	109	58	17	M12x1	G 1/8	600	FDR.02-52
<b>FDR.02-B7</b>	0,05-7 bar	G 1/4"	109	58	17	M12x1	G 1/8	600	FDR.02-52
<b>FDR.02-B10</b>	0,05-10 bar	G 1/4"	109	58	17	M12x1	G 1/8	900	FDR.02-52

### Flow chart



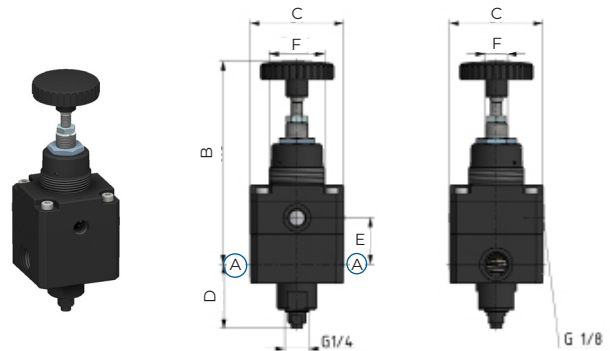
### Hysteresis



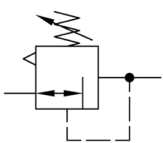
## FDR.07 | Precision pressure regulator

### Technical data

- Precision pressure regulator
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: 0,5 l/min at P2=6 bar
- Ambient temperature: max. 60°C
- Materials: Body: aluminium diaphragm and seals: NBR
- weight: 505g



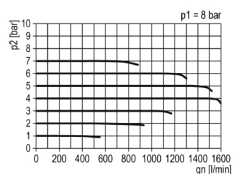
### Symbol



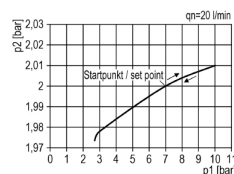
### Dimensions

Designation	Control range	Connection thread A	B	C	D	E	F	G	air exhaust	flow l/min	accessories
<b>FDR.07-B4</b>	0,05-4 bar	G 1/4"	110	51	35	25	M30x1,5	M12x1	G 1/4"	1250	mounting bracket MW.30
<b>FDR.07-B8</b>	0,05-8 bar	G 1/4"	110	51	35	25	M30x1,5	M12x1	G 1/4"	1250	MW.30

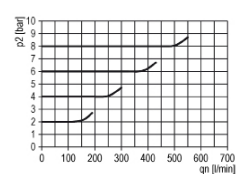
### Flow chart



### Hysteresis



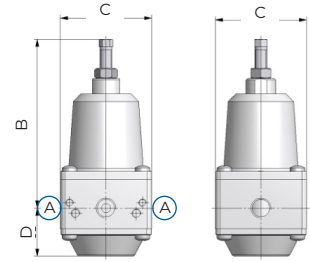
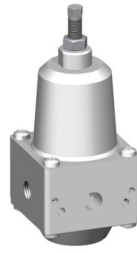
### Ventilation characteristics



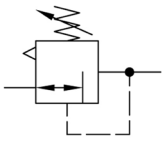
## FDR.11 | Precision pressure regulator

### Technical data

- Precision pressure regulator
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (high)
- Internal air consumption at inlet pressure: < 1,0 l/min bei P2 6 bar>
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 600g



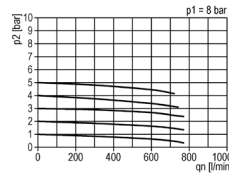
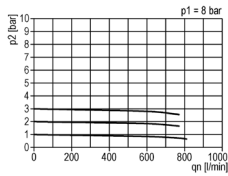
### Symbol



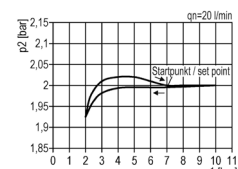
### Dimensions

Designation	Control range	Connection thread A	B	C	D	spindle	pressure gauge	flow l/min	accessories
FDR.11-E2	0,1-2 bar	G 1/4"	111	58	32	M8x1	G 1/8	750	mounting bracket FDP.11-40
FDR.11-E3	0,1-3 bar	G 1/4"	111	58	32	M8x1	G 1/8	750	FDP.11-40
FDR.11-E5	0,1-5 bar	G 1/4"	111	58	32	M8x1	G 1/8	750	FDP.11-40
FDR.11 NPT	0,1-2/3/5 bar	1/4-18NPT	111	58	32	M8x1	G 1/8	750	FDP.11-40

### Flow chart



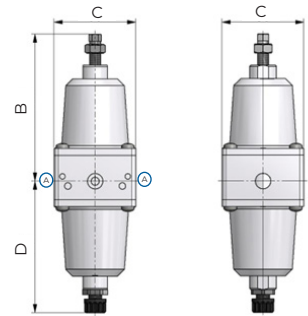
### Hysteresis



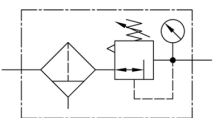
## FDP.11 | Precision filter-regulator

### Technical data

- Sintered filter, centrifugal principle, membrane pressure regulator with secondary venting
- Installation position: vertical
- Filter fineness: 10 µm
- Medium: compressed air, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 15 mbar (high)
- Internal air consumption at inlet pressure: < 1,0 l/min at P2=6 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 600g



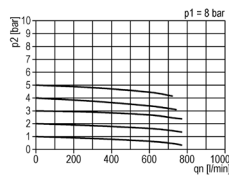
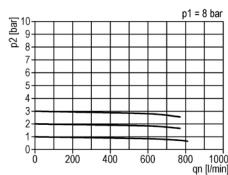
### Symbol



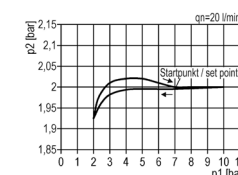
### Dimensions

Designation	Control range	Connection thread A	B	C	D	spindle	pressure gauge	air ex-haust	flow l/min	accessories
FDP.11-E2	0,1-2 bar	G 1/4"	108	60	96	M8x1	G 1/8	750	750	mounting bracket MW.30 Filter-element FDP.11-19
FDR.11-E3	0,1-3 bar	G 1/4"	108	60	96	M8x1	G 1/8	750	750	MW.30 FDP.11-19
FDR.11-E5	0,1-5 bar	G 1/4"	108	60	96	M8x1	G 1/8	750	750	MW.30 FDP.11-19
FDR.11-E7	0,1-7 bar	G 1/4"	108	60	96	M8x1	G 1/8	750	750	MW.30 FDP.11-19
FDR.11-NPT	0,1-2/3/5/7 bar	G 1/4"	108	60	96	M8x1	G 1/8		750	MW.30 FDP.11-19

### Flow chart



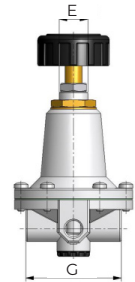
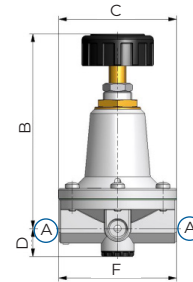
### Hysteresis



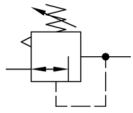
# DRF.31/33 | Fine pressure regulator

## Technical data

- Fine pressure regulator
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -10 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 15 mbar (high)
- no internal air consumption
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 910g



### Symbol

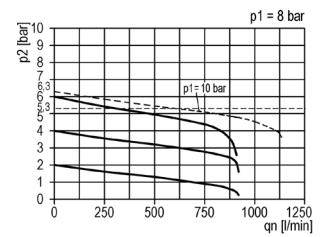
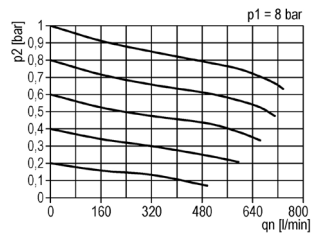


### Dimensions

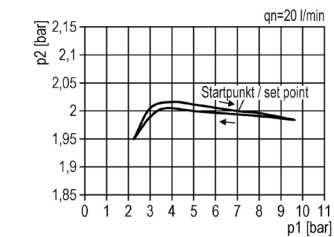
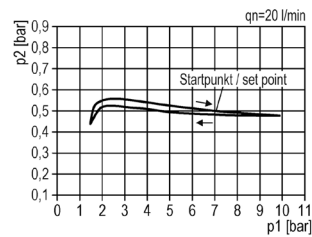
Designation	Control range	Connection thread A	B	C	D	E	F	G	Feedback version	pressure gauge	flow l/min	mounting bracket
DRF.31-1	0,1-2 bar	G 1/4"	135	82	19	M20x1,5	82	67	Ja	G 1/8	540	BW.30
DRF.31-3	0,1-3 bar	G 1/4"	135	82	19	M20x1,5	82	67	Ja	G 1/8	540	BW.30
DRF.31-6	0,1-6 bar	G 1/4"	135	82	19	M20x1,5	82	67	Ja	G 1/8	540	BW.30
DRF.31-10	0,1-10 bar	G 1/4"	135	82	19	M20x1,5	82	67	Ja	G 1/8	540	BW.30
DRF.31-16	0,1-16 bar	G 1/4"	135	82	19	M20x1,5	82	67	Ja	G 1/8	540	BW.30
DRF.33-1	0,1-2 bar	G 1/2"	129	82	33	M20x1,5	82	67	Ja	G 1/8	540	BW.30
DRF.33-3	0,1-3 bar	G 1/2"	129	82	33	M20x1,5	82	67	Ja	G 1/8	540	BW.30
DRF.33-6	0,1-6 bar	G 1/2"	129	82	33	M20x1,5	82	67	Ja	G 1/8	540	BW.30
DRF.33-10	0,1-10 bar	G 1/2"	129	82	33	M20x1,5	82	67	Ja	G 1/8	540	BW.30
DRF.33-16	0,1-16 bar	G 1/2"	129	82	33	M20x1,5	82	67	Ja	G 1/8	540	BW.30

### accessories

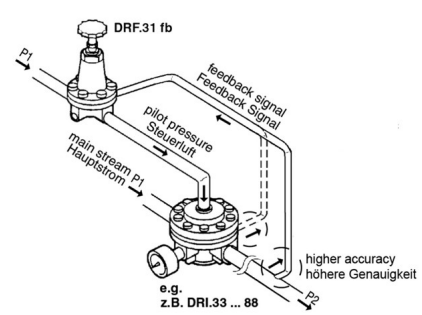
### Flow chart



### Hysteresis



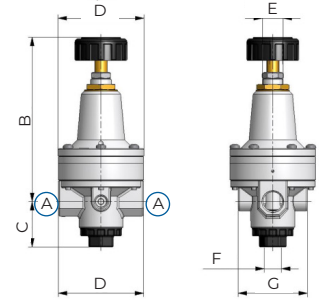
### Example of use DRF.31/33 FB



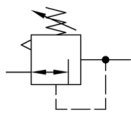
# FDR.03 | Precision pressure regulator

## Technical data

- Precision pressure regulator
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: max. 6,0 l/min at P2=6 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 1460g

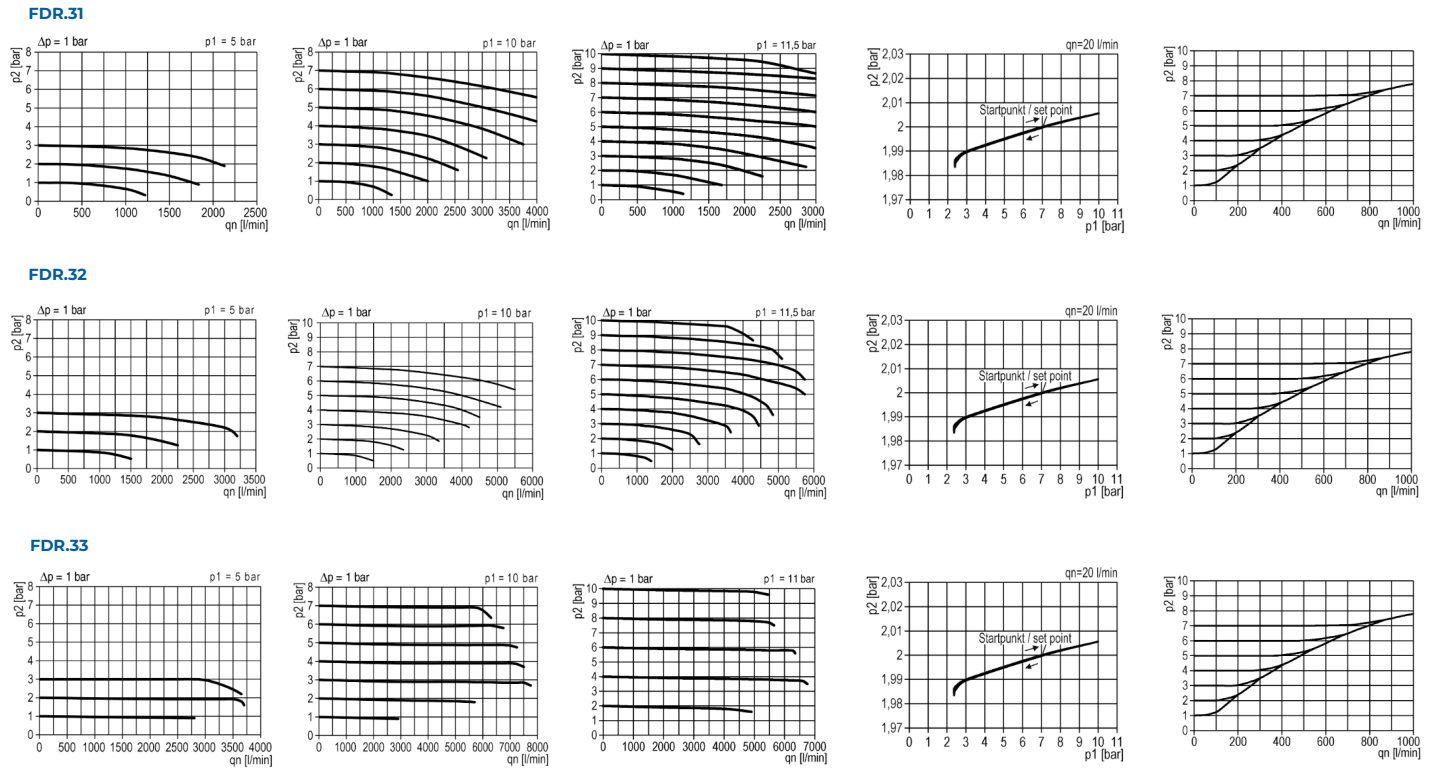


## Symbol



Dimensions		accessories										
Designation	Control range	Connection thread A	B	C	D	Panel thread E	Ventilation F	G	Flow l/min	pressure gauge	ventilation l/min	mounting bracket
FDR.03-31 B3	0,05-3 bar	G 1/4"	160	44	82	M20x1,5	G3/8"	67	2050	G 1/8	800	BW.30
FDR.03-31 B5	0,05-5 bar	G 1/4"	160	44	82	M20x1,5	G3/8"	67	2500	G 1/8	800	BW.30
FDR.03-31 B7	0,05-7 bar	G 1/4"	160	44	82	M20x1,5	G3/8"	67	3000	G 1/8	800	BW.30
FDR.03-31 B10	0,05-10 bar	G 1/4"	160	44	82	M20x1,5	G3/8"	67	3000	G 1/8	800	BW.30
FDR.03-32 B3	0,05-3 bar	G 3/8"	160	44	82	M20x1,5	G3/8"	67	3200	G 1/8	800	BW.30
FDR.03-32 B5	0,05-5 bar	G 3/8"	160	44	82	M20x1,5	G3/8"	67	3500	G 1/8	800	BW.30
FDR.03-32 B7	0,05-7 bar	G 3/8"	160	44	82	M20x1,5	G3/8"	67	4000	G 1/8	800	BW.30
FDR.03-32 B10	0,05-10 bar	G 3/8"	160	44	82	M20x1,5	G3/8"	67	4000	G 1/8	800	BW.30
FDR.03-33 B3	0,05-3 bar	G 1/2"	160	44	82	M20x1,5	G3/8"	67	3500	G 1/8	800	BW.30
FDR.03-33 B5	0,05-5 bar	G 1/2"	160	44	82	M20x1,5	G3/8"	67	5000	G 1/8	800	BW.30
FDR.03-33 B7	0,05-7 bar	G 1/2"	160	44	82	M20x1,5	G3/8"	67	6500	G 1/8	800	BW.30
FDR.03-33 B10	0,05-10 bar	G 1/2"	160	44	82	M20x1,5	G3/8"	67	6500	G 1/8	800	BW.30

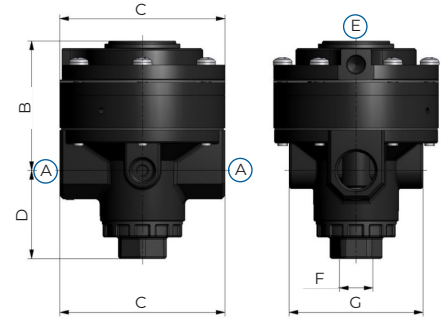
## Flow chart      Hysteresis      Ventilation characteristics



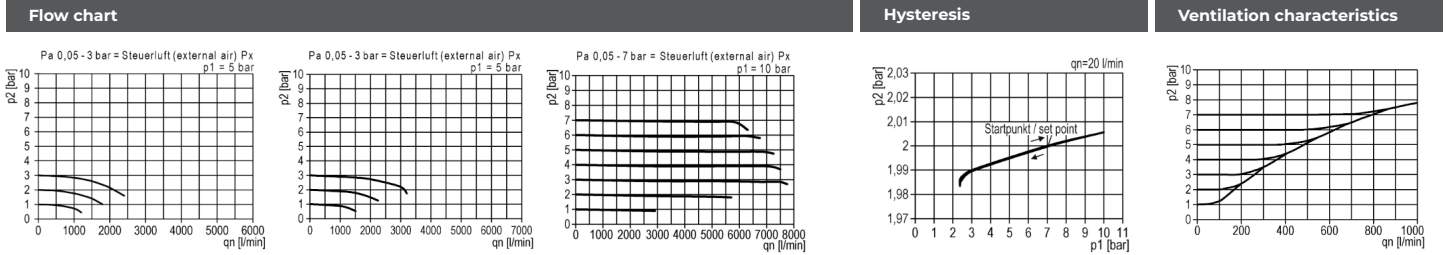
## FDRI.03 | Precision pressure regulator pneumatically remote-controlled

### Technical data

- Precision pressure regulator with remote control
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: max. 6,0 l/min at P1=16 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 1460g



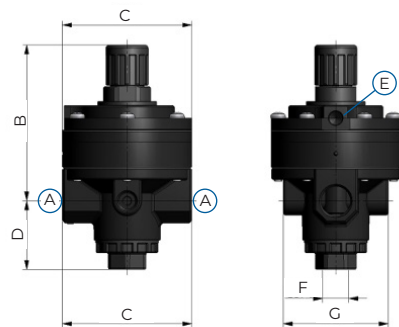
Symbol	Dimensions												accessories
	Designation	Connection thread A	B	C	D	E	F	G	Flow l/min	pressure gauge	Ventilation l/min	air exhaust	mounting bracket
	FDRI.03-31	G 1/4"	64	82	44	G1/8"	G3/8"	67	2700	G 1/8	800	G 3/8"	BW.30
	FDRI.03-32	G 3/8"	64	82	44	G1/8"	G3/8"	67	4300	G 1/8	800	G 3/8"	BW.30
	FDRI.03-33	G 1/2"	64	82	44	G1/8"	G3/8"	67	6500	G 1/8	800	G 3/8"	BW.30



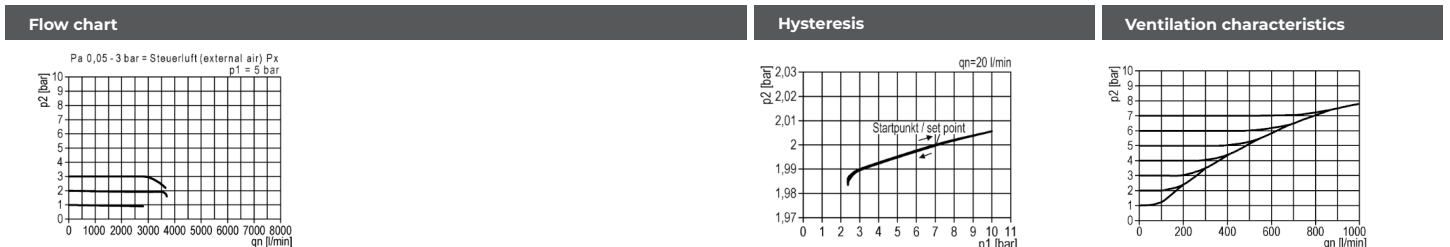
## FDRZ.03 | Precision pressure regulator remote-controlled, incl. fine adjustment

### Technical data

- Precision pressure regulator with remote control and fine adjustment
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: max. 6,0 l/min at P1=16 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 1460g



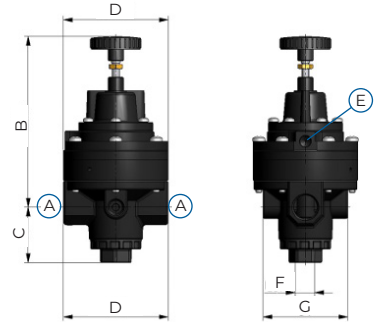
Symbol	Dimensions												accessories
	Designation	Control range	Connection thread A	B	C	D	E	F	G	Flow l/min	pressure gauge	Ventilation l/min	mounting bracket
	FDRZ.03-31-B1	0,05-1 bar	G 1/4"	99	82	44	G1/8"	G3/8"	67	2700	G 1/8	800	BW.30
	FDRZ.03-32-B1	0,05-1 bar	G 3/8"	99	82	44	G1/8"	G3/8"	67	4300	G 1/8	800	BW.30
	FDRZ.03-33-B1	0,05-1 bar	G 1/2"	99	82	44	G1/8"	G3/8"	67	6500	G 1/8	800	BW.30



## FDRZ.03 | Precision pressure regulator remote-controlled, incl. fine adjustment

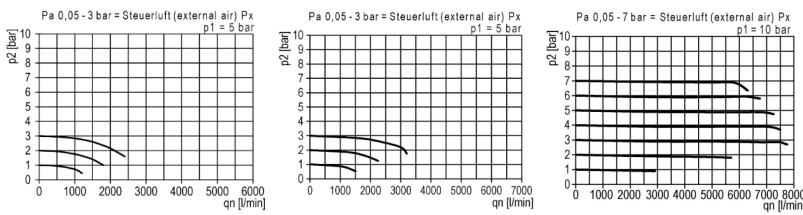
### Technical data

- Precision pressure regulator with remote control and fine adjustment
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: max. 6,0 l/min at P1=16 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 1460g

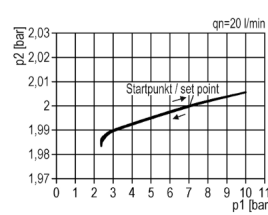


Symbol	Dimensions										accessories		
	Designation	Control range	Connection thread A	B	C	D	E	F	G	Flow l/min	pressure gauge	ventilation l/min	mounting bracket
	<b>FDRZ.03-31-B6</b>	0,05-6 bar	G 1/4"	134	44	82	G1/8"	G3/8"	67	2700	G 1/8	800	BW.30
	<b>FDRZ.03-32-B6</b>	0,05-6 bar	G 3/8"	134	44	82	G1/8"	G3/8"	67	4300	G 1/8	800	BW.30
	<b>FDRZ.03-33-B6</b>	0,05-6 bar	G 1/2"	134	44	82	G1/8"	G3/8"	67	6500	G 1/8	800	BW.30

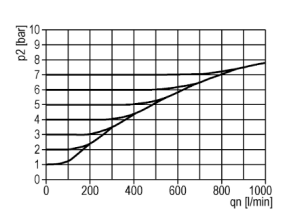
### Flow chart



### Hysteresis



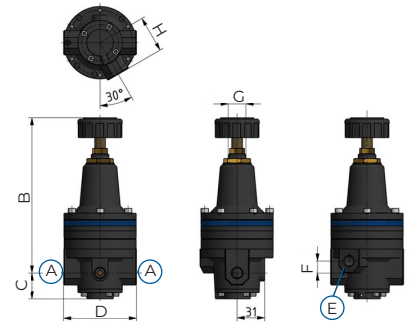
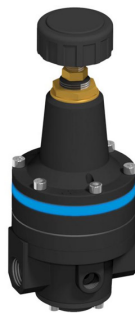
### Ventilation characteristics



## FDR.3000 | Präzisionsdruckregler mit hoher Rückentlüftung

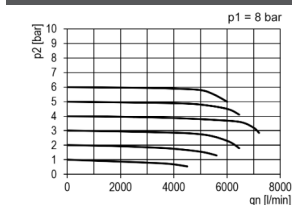
### Technical data

- Precision pressure regulator with high back vent
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: max. 6,0 l/min at P1=16 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 1460g

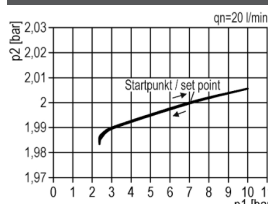


Symbol	Dimensions										accessories			
	Designation	Control range	Connection thread A	B	C	D	E	F	G	H	Flow l/min	pressure gauge	ventilation l/min	mounting bracket
	<b>FDR.3000-31-B7</b>	0,05-7 bar	G 1/4"	175	29	82	G3/8"	13,5	M20x1,5	41	2700	G 1/8	4000	BW.30
	<b>FDR.3000-32-B7</b>	0,05-7 bar	G 3/8"	175	29	82	G3/8"	13,5	M20x1,5	41	6500	G 1/8	4000	BW.30
	<b>FDR.3000-33-B7</b>	0,05-7 bar	G 1/2"	175	29	82	G3/8"	13,5	M20x1,5	41	6500	G 1/8	4000	BW.30

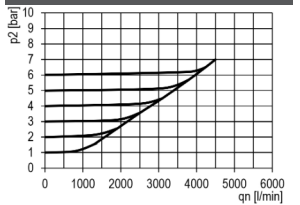
### Flow chart



### Hysteresis



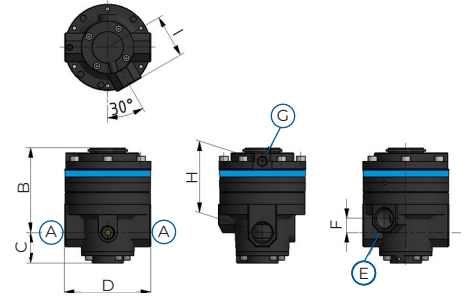
### Ventilation characteristics



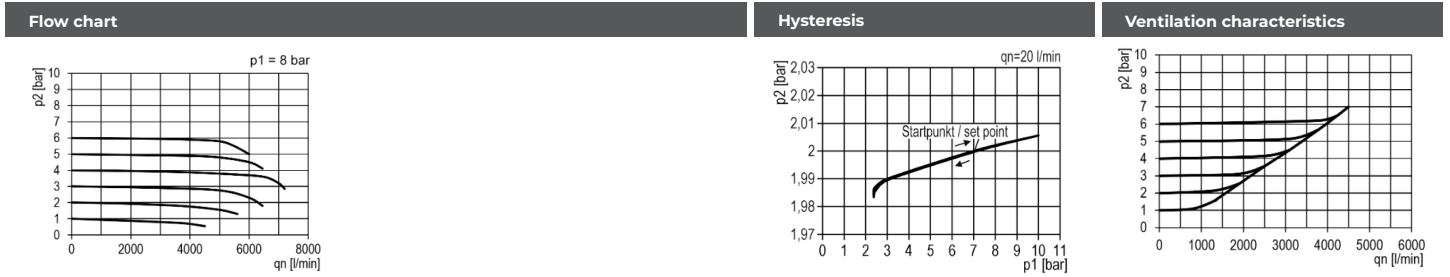
## FDRi.3000 | Precision pressure regulator with remote control

### Technical data

- Precision regulator with remote control and high back vent
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: max. 6,0 l/min at P1=16 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 1460g



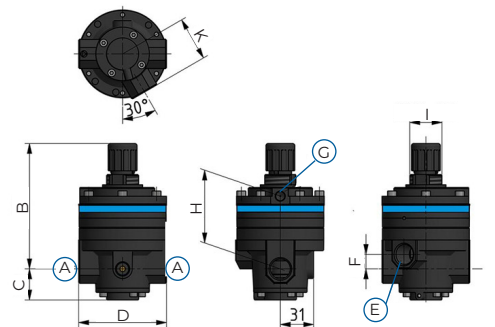
Symbol	Dimensions												accessories		
	Designation	Connection thread A	B	C	D	E	F	E	G	H	I	Flow l/min	pressure gauge	Ventilation l/min	mounting bracket
	FDRi.3000	G 1/4"	81	29	82	G3/8"	13,5	G1/2"	G 1/8	67,9	41	2700	G 1/8	4000	BW.30
	FDRi.3000	G 3/8"	81	29	82	G3/8"	13,5	G1/2"	G 1/8	67,9	41	4300	G 1/8	4000	BW.30
	FDRi.3000	G 1/2"	81	29	82	G3/8"	13,5	G1/2"	G 1/8	67,9	41	6500	G 1/8	4000	BW.30



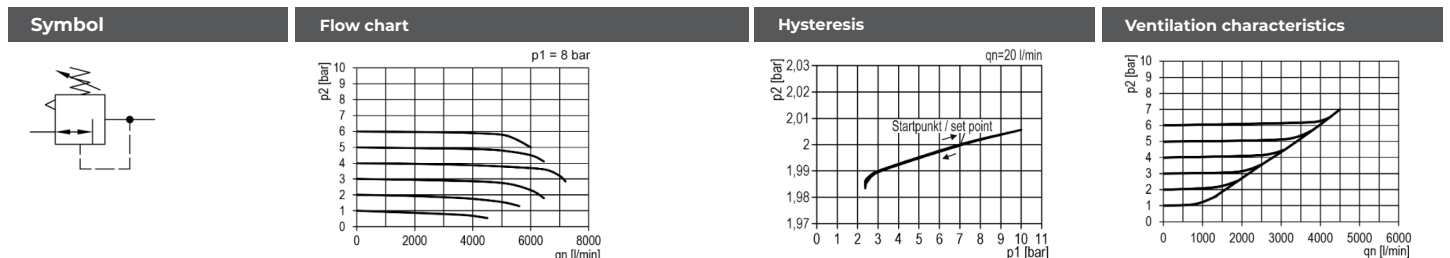
## FDRZ.3000 | Precision pressure regulator, remote controlled and fine adjustment

### Technical data

- Precision regulator with remote control and fine tuning
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: max. 6,0 l/min at P1=16 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 1460g



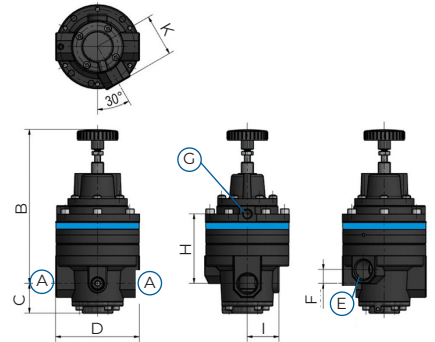
Dimensions												accessories			
Designation	Control range	Connection thread A	B	C	D	E	F	G	H	I	K	Flow l/min	pressure gauge	Ventilation l/min	mounting bracket
FDRZ.3000-31-B1	0,05-1 bar	G 1/4"	117	29	82	G3/8"	13,5	G1/8"	67,9	M30x1,5	41	2700	G 1/8	4000	BW.30
FDRZ.3000-32-B1	0,05-1 bar	G 3/8"	117	29	82	G3/8"	13,5	G1/8"	67,9	M30x1,5	41	6500	G 1/8	4000	BW.30
FDRZ.3000-33-B1	0,05-1 bar	G 1/2"	117	29	82	G3/8"	13,5	G1/8"	67,9	M30x1,5	41	6500	G 1/8	4000	BW.30



## FDRZ.3000 | Precision pressure regulator, remote controlled and fine adjustment

### Technical data

- Remote-controlled precision pressure regulator with fine adjustment and high back venting
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 5 mbar (very high)
- Internal air consumption at inlet pressure: max. 6,0 l/min at P1=16 bar
- Ambient temperature: max. 60°C
- Materials: Body: die-cast zinc diaphragm and seals: NBR
- weight: 1460g



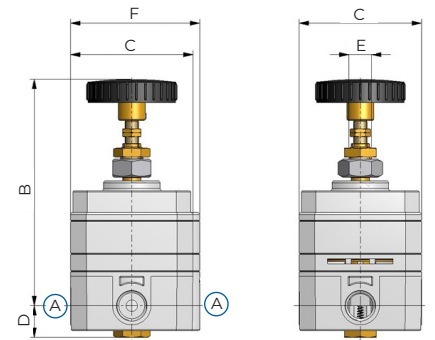
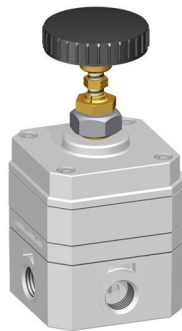
Dimensions														accessories	
Designation	Control range	Connection thread A	B	C	D	E	F	G	H	I	K	Flow l/min	pressure gauge	Ventilation l/min	mounting bracket
FDRZ.3000-31-B1	0,05-1 bar	G 1/4"	150	29	82	G3/8"	13,5	G1/8"	68	31	41	2700	G 1/8	4000	BW.30
FDRZ.3000-32-B1	0,05-1 bar	G 3/8"	150	29	82	G3/8"	13,5	G1/8"	68	31	41	6500	G 1/8	4000	BW.30
FDRZ.3000-33-B1	0,05-1 bar	G 1/2"	150	29	82	G3/8"	13,5	G1/8"	68	31	41	6500	G 1/8	4000	BW.30

Symbol	Flow chart	Hysteresis	Ventilation characteristics

## FDR.04 | Precision pressure regulator with fine adjustment

### Technical data

- Precision pressure regulator with fine adjustment
- Installation position: arbitrary
- Medium: compressed air, filtered 5 µm, neutral gases
- Temperature area: -35 °C - +60 °C
- Input pressure: P1 max. 16 bar
- Control accuracy 1 mbar (extremely high)
- Internal air consumption at inlet pressure: max. 2,5 l/min at P1=16 bar
- Ambient temperature: max. 60°C
- Materials: Body: PA66 diaphragm and seals: NBR
- weight: 285g



Symbol	Dimensions									accessories
	Designation	Control range	Connection thread A	B	C	D	E	F	Flow l/min	mounting bracket
	FDR.04-B4	0,001-2 bar	G 1/4"	109	58	17	M12x1	57	450	FDR.04-34
	FDR.04-B8	0,001-8 bar	G 1/4"	109	58	17	M12x1	57	600	FDR.04-34

Flow chart	Hysteresis	Ventilation characteristics



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KNOCKS FLUID-TECHNIK GMBH

Otto-Hahn-Str. 4  
59379 Selm  
Deutschland

T 02592 966-0  
F 02592 966-600  
info@knocks.de



KNOCKS Fluid-Technik GmbH  
[www.knocks.de](http://www.knocks.de)