

AIR TREATMENT FRL Series FUTURA



FRL 3 Units
(F+R+L)



FRL 2 Units
(FR+L)

The Futura series: the future is built in!

Innovative, compact and highly efficient, the Futura series is an absolute technical highlight. The modular structure of the patented system and the innovative material concept (Grivory GV 6H with 60% glass fibre content; sturdier, lighter, firmer and more economical than metal) offer absolute flexibility with guaranteed functional reliability.

Knocks FRL-units purify the air and remove corrosive moisture and abrasive solids from the airstream. They also regulate and reduce main line pressure and provide lubrication for various pneumatic control equipment (eg. air tools, cylinders and systems).

The New **FUTURA** Series offers many advantages:

- > Modern Design
 - > High Quality
 - > Lockable with Regular Padlock
 - > Easy Oil Refill through suction opening
 - > Modular to build complete service units
 - > Safety extensions available
- > Conform **97/23/EC** en **ATEX** Directives

KNOCKS
FLUID-TECHNIK



The Futura series: Future built in!



Technology and expertise: the Futura production.



Innovative, compact, modular: the Futura series.

ACCESSORIES SERIES 0, 1, 2, 4

Spring BG0



Type C.11-78 0.2 – 4 bar
Type C.11-86 0.5 – 8 bar
Type C.11-83 0.5 – 10 bar

Spring BG1



Type FED.1-700 0.1 – 1 bar
Type FED.1-701 0.1 – 2 bar
Type FED.1-702 0.2 – 4 bar
Type FED.1-703 0.5 – 8 bar
Type FED.1-704 0.5 – 10 bar
Type FED.1-705 0.5 – 16 bar

Spring BG2



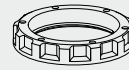
Type FED.2-700 0.1 – 1 bar
Type FED.2-701 0.1 – 2 bar
Type FED.2-702 0.2 – 4 bar
Type FED.2-703 0.5 – 8 bar
Type FED.2-704 0.5 – 10 bar
Type FED.2-705 0.5 – 16 bar

Spring BG4



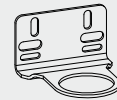
Type FED.4-700 0.1 – 1 bar
Type FED.4-701 0.1 – 2 bar
Type FED.4-702 0.2 – 4 bar
Type FED.4-703 0.5 – 8 bar
Type FED.4-704 0.5 – 10 bar
Type FED.4-705 0.5 – 16 bar

Control panel nut



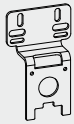
BG0: C.00-34
BG1: SM-1
BG2: SM-2
BG4: C.33-42

Mounting bracket
for control panel installation



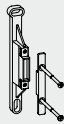
BG0: KBW.0-1227
BG1: KBW.1-1227
BG2: KBW.2-1227

Mounting bracket



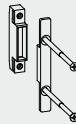
BG0: KBW.0-1225
BG1: KBW.1-1225
BG2: KBW.2-1225
BG4: KBW.4-1225

Coupling kit
wall mounting



BG0: KKOP.0 W
BG1: KKOP.1 W
BG2: KKOP.2 W
BG4: KKOP.4 W

Coupling kit



BG0: KKOP.0
BG1: KKOP.1
BG2: KKOP.2
BG4: KKOP.4

Metal bowl
with level indicator and drain



BG0: C.00 M HA3
(without level indicator)
BG1: BE.1 H HA4
BG2: BE.2 H HA4
BG4: BE.4 H HA3

Metal bowl
with level indicator, closed



BG0: L.00 M
(without level indicator)
BG1: BE.1 H C
BG2: BE.2 H C
BG4: BE.4 H C

Metal bowl
with level indicator and
filling valve



BG1: BE.1 H LUB
BG2: BE.2 H LUB
BG4: BE.4 H LUB

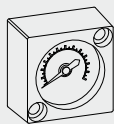
ACCESSORIES

Pressure gauge



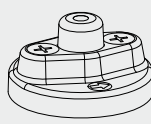
Type G 50.2,5 R
Type G 50.4 R
Type G 50.6 R
Type G 50.10 R
Type G 50.16 R
Type G 50.25 R
Type G 63.6 R
Type G 63.10 R
Type G 63.16 R
Type G 63.25 R

Pressure gauge BG0
square



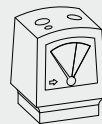
Type GC 27.12
Type GC 27.6

Differential pressure indicator



Type DA.1

Differential pressure gauge



Type DM 2

P/E transformer ¹⁾



Type PE.10

Electric pilot valve
24 V=; 24 V/50 Hz;
115 V/50 Hz; 230 V/50 Hz



Type ZG.0-104

Lock

Closure E11
Closure G1663



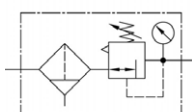
Type VH.31
Type VH.32

Auto drain



Type AM 10
Type AM 10 NC

1. FILTER-REGULATORS Series KFRG



High quality sinter filter centrifugal principle, diaphragm-type pressure with relieving feature.

TECHNICAL DATA

- Medium compressed air, neutral gases
- Supply pressure P1 min 1,5 bar
- Supply pressure P1 max 12 bar (KFRG0) max 16 bar (KFRG1/2/4)
- Temperature range 0-50°C
- PC Polycarbonate Bowl (KFRG0) with PA bowl guard (KFRG1/2/4)
- Semi automatic drain
- Vertical mounting
- Filter element 5 µm
- Pressure knob lockable with padlock (KFRG1/2/4)
- Air consumption max 1.5 l/min (KFRG4 pilot controlled)
- Modular to build complete service units
- Safety extensions available
- Conform **97/23/EC** en **ATEX** Directives
- Easy oil refill through suction opening.

Order Codification

- KFRG-014/8G** Filter regulator 1/4" 0.5-8 bar 5 µm with PC bowl, semi automatic drain and integrated gauge
KFRG-014/8GM Filter regulator 1/4" 0.5-8 bar 5 µm with metal bowl, semi automatic drain and integrated gauge
KFRG-014/8GAM Filter regulator 1/4" 0.5-8 bar 5 µm with PC bowl, automatic drain and integrated gauge
- KFRG-114/8** Filter regulator 1/4" 0.5-8 bar 5 µm with PC bowl, bowl guard and semi automatic drain
KFRG-114/8H Filter regulator 1/4" 0.5-8 bar 5 µm with metal bowl and semi automatic drain
KFRG-114/8AM Filter regulator 1/4" 0.5-8 bar 5 µm with PC bowl, bowl guard and automatic drain
- KFRG-212/8** Filter regulator 1/2" 0.5-8 bar 5 µm with PC bowl, bowl guard and semi automatic drain
KFRG-212/8H Filter regulator 1/2" 0.5-8 bar 5 µm with metal bowl and semi automatic drain
KFRG-212/8AM Filter regulator 1/2" 0.5-8 bar 5 µm with PC bowl, bowl guard and automatic drain
- KFRG-41/8** Filter regulator 1" 0.5-8 bar 5 µm with PC bowl, bowl guard and semi automatic drain
KFRG-41/8H Filter regulator 1" 0.5-8 bar 5 µm with metal bowl and semi automatic drain
KFRG-41/8AM Filter regulator 1" 0.5-8 bar 5 µm with PC bowl, bowl guard and automatic drain

Accessories

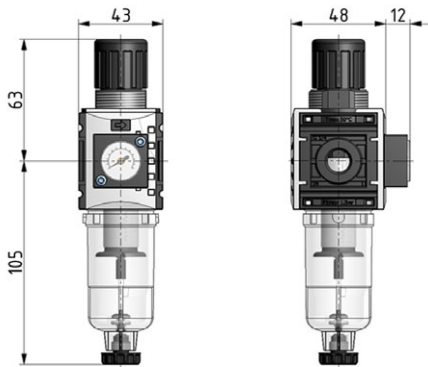
For Series	Coupling Kit	Coupling Kit Wall Mounting	Mounting Bracket	Panel Mounting + Nut	Gauge
KFRG0	KKOP0	KKOP0W	KBW0-1225	KBW0-1227 + C0034	Mano Integrated
KFRG1	KKOP1	KKOP1W	KBW1-1225	KBW1-1228 + SM.1	MANO-0-10B-1/4"
KFRG2	KKOP2	KKOP2W	KBW2-1225	KBW2-1227 + SM.2	MANO-0-10B-1/4"
KFRG4	KKOP4	KKOP4W	KBW4-1225	C33-42 nut only	MANO-0-10B-1/4"

See also page 3.01.02

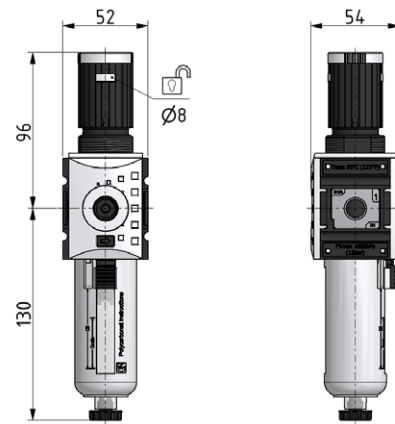
Technical modifications keep in reserve !

(2021/02)

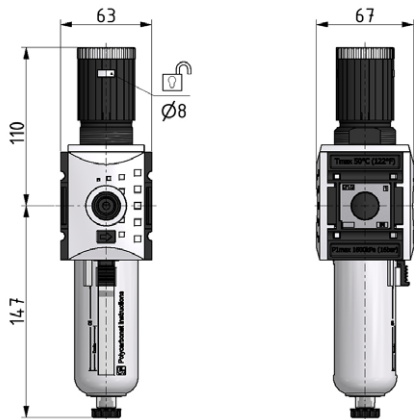
Dimensions (mm) KFRG0



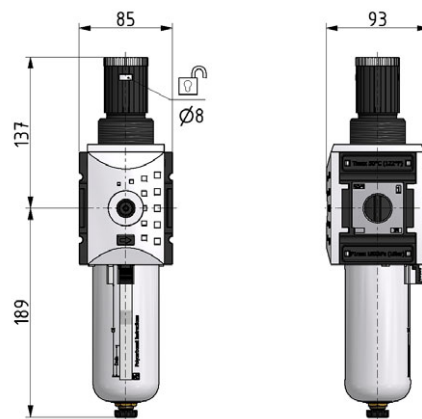
Dimensions (mm) KFRG1



Dimensions (mm) KFRG2



Dimensions (mm) KFRG4



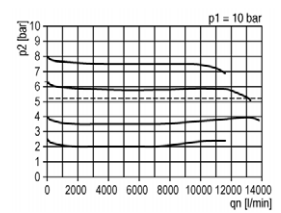
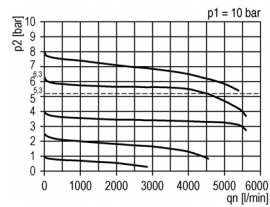
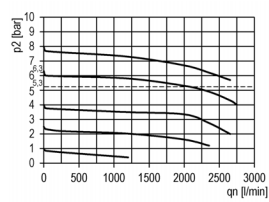
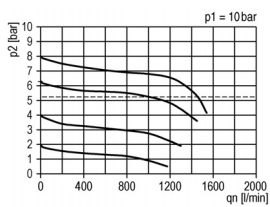
KFRG0

KFRG1

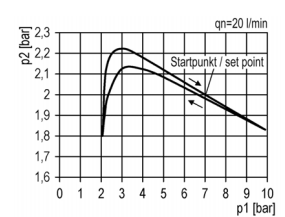
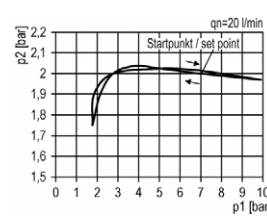
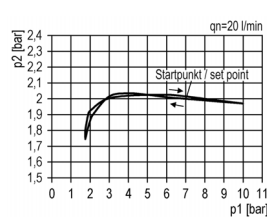
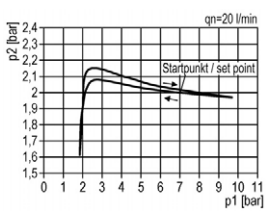
KFRG2

KFRG4

FLOW



PRESSURE



Technical modifications keep in reserve !

(2020/10)

2. LUBRICATORS Series KLUB



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High quality lubricator with automatic oil filling during operation.




TECHNICAL DATA

- Medium compressed air, neutral gases
- Supply pressure P1 max 12 bar (KLUB0) max 16 bar (KLUB1/2/4)
- Temperature range 0-50°C
- PC Polycarbonate Bowl (KLUB0) with PA bowl guard (KLUB1/2/4)
- Vertical mounting
- Bowl volume 35cm³ (KLUB0) 40cm³ (KLUB1) 80cm³ (KLUB2) 181cm³ (KLUB4)
- Oil type CL 32 DIN 51517 - ISO VG 32
- Dome assembly PC
- Can be oilpulling during operation (KLUB1/2/4)
- Modular to build complete service units
- Safety extensions available
- Conform **97/23/EC** en **ATEX** Directives
- Easy oil refill through suction opening.

Order Codification

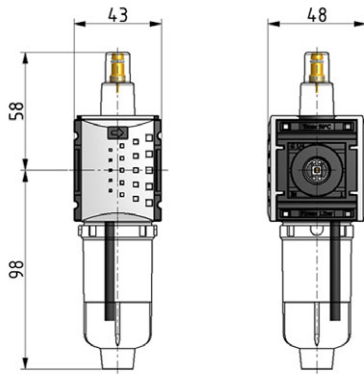
KLUB-014	Micro lubricator 1/4" with PC bowl
KLUB-014M	Micro lubricator 1/4" with metal bowl
KLUB-114	Lubricator 1/4" with automatic oil filling, PC bowl and bowl guard
KLUB-114H	Lubricator 1/4" with automatic oil filling and metal bowl
KLUB-212	Lubricator 1/2" with automatic oil filling, PC bowl and bowl guard
KLUB-212H	Lubricator 1/2" with automatic oil filling and metal bowl
KLUB-41	Lubricator 1" with automatic oil filling, PC bowl and bowl guard
KLUB-41H	Lubricator 1" with automatic oil filling and metal bowl

Accessories

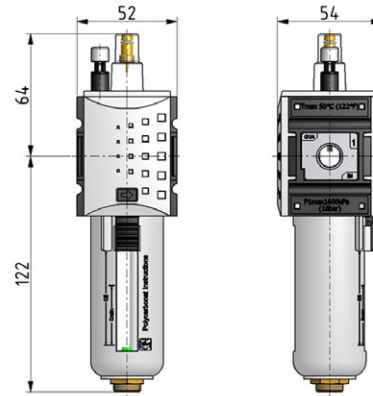
For Series	Coupling Kit	Coupling Kit Wall Mounting	Mounting Bracket
			
KLUB0	KKOP0	KKOP0W	KBW0-1225
KLUB1	KKOP1	KKOP1W	KBW1-1225
KLUB2	KKOP2	KKOP2W	KBW2-1225
KLUB4	KKOP4	KKOP4W	KBW4-1225

See also page 3.01.02

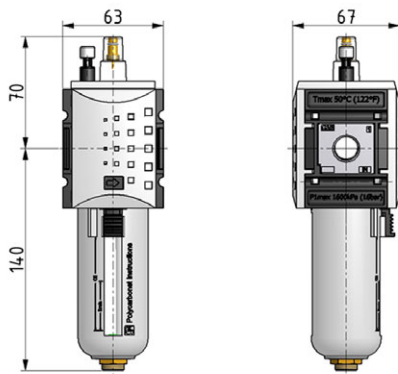
Dimensions (mm) KLUB0



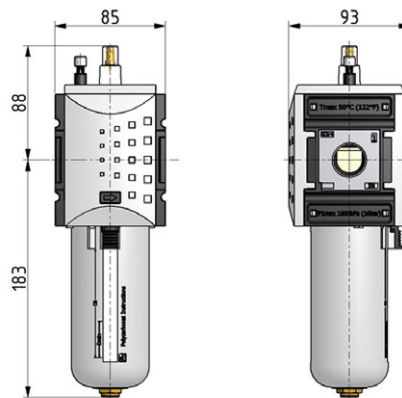
Dimensions (mm) KLUB1



Dimensions (mm) KLUB2



Dimensions (mm) KLUB4



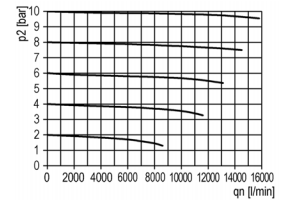
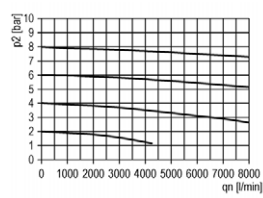
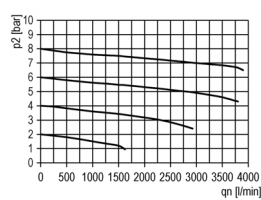
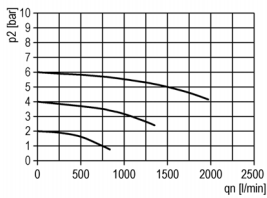
KLUB0

KLUB1

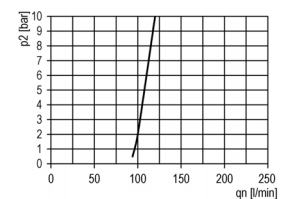
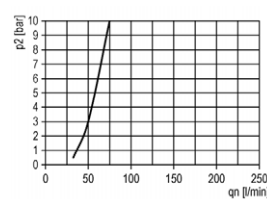
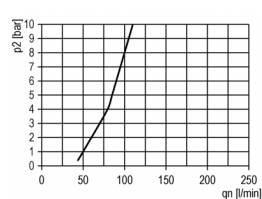
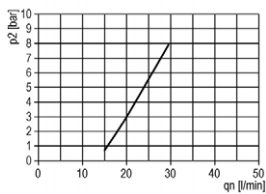
KLUB2

KLUB4

FLOW



LIMIT

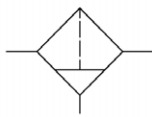


Technical modifications keep in reserve !

(2020/10)

3. FILTERS Series KFIL

High quality sinter filter centrifugal principle.



KNOCKS
FLUID-TECHNIK



TECHNICAL DATA

- Medium compressed air, neutral gases
- Supply pressure P1 min 1,5 bar
- Supply pressure P1 max 12 bar (KFIL0) max 16 bar (KFIL1/2/4)
- Temperature range 0-50°C
- PC Polycarbonate Bowl (KFIL0) with PA bowl guard (KFIL1/2/4)
- Semi automatic drain
- Vertical mounting
- Filter element 5 µm
- Modular to build complete service units
- Safety extensions available
- Conform **97/23/EC** en **ATEX** Directives

Order Codification

KFIL-014	Filter 1/4" 5 µm with PC bowl and semi automatic drain
KFIL-014AM	Filter 1/4" 5 µm with PC bowl and automatic drain
KFIL-114	Filter 1/4" 5 µm with PC bowl, bowl guard and semi automatic drain
KFIL-114AM	Filter 1/4" 5 µm with PC bowl, bowl guard and automatic drain
KFIL-212	Filter 1/2" 5 µm with PC bowl, bowl guard and semi automatic drain
KFIL-212AM	Filter 1/2" 5 µm with PC bowl, bowl guard and automatic drain
KFIL-41	Filter 1" 5 µm with PC bowl, bowl guard and semi automatic drain
KFIL-41AM	Filter 1" 5 µm with PC bowl, bowl guard and automatic drain

Accessories

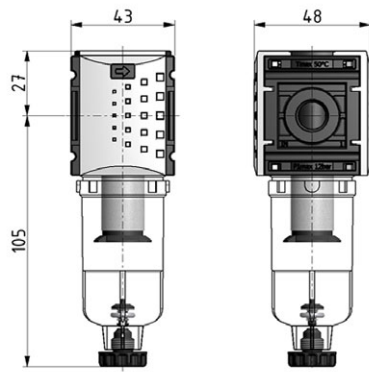
For Series	Coupling Kit	Coupling Kit Wall Mounting	Mounting Bracket
KFIL0	KKOP0	KKOP0W	KBW0-1225
KFIL1	KKOP1	KKOP1W	KBW1-1225
KFIL2	KKOP2	KKOP2W	KBW2-1225
KFIL4	KKOP4	KKOP4W	KBW4-1225

See also page 3.01.02

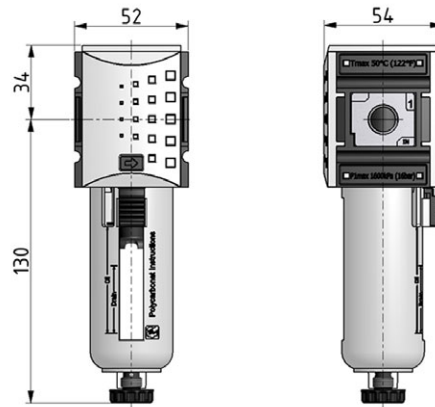
Technical modifications keep in reserve !

(2020/10)

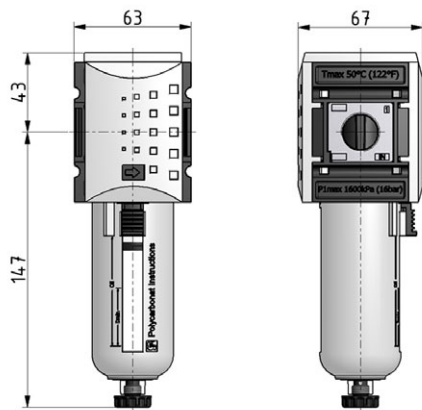
Dimensions (mm) KFIL0



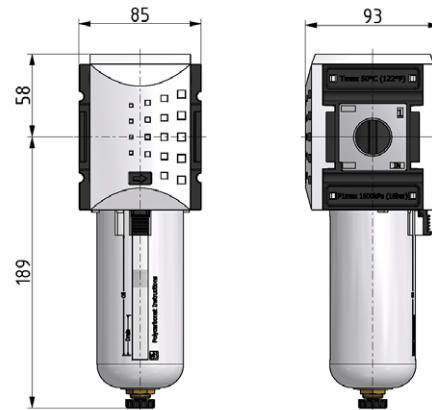
Dimensions (mm) KFIL1



Dimensions (mm) KFIL2



Dimensions (mm) KFIL4



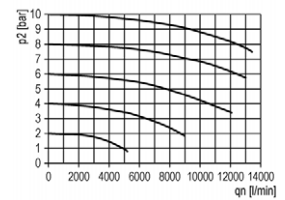
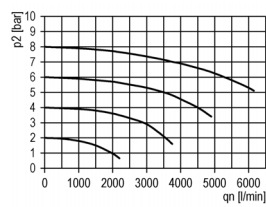
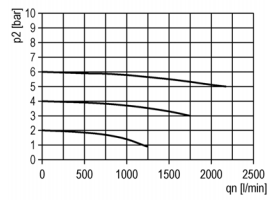
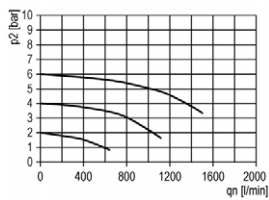
KFIL0

KFIL1

KFIL2

KFIL4

**F
L
O
W**



Technical modifications keep in reserve !

(2020/10)

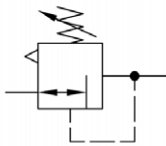
4. PRESSURE REGULATORS Series KREG/KRBE

Air line regulator with diaphragm and relieving feature.

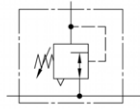


TECHNICAL DATA

- Medium compressed air, neutral gases
- Supply pressure P1 max 12 bar (KREG0) max 16 bar (KREG1/2/4)
- Temperature range 0-50°C
- Pressure knob lockable with padlock (KREG1/2/4)
- Air consumption max 1.5 l/min (KREG4 pilot controlled)
- Modular to build complete service units
- Safety extensions available
- Conform **97/23/EC** en **ATEX** Directives
- KREG = Pressure regulator
- KRBE = Manifold regulator with continuous pressure supply

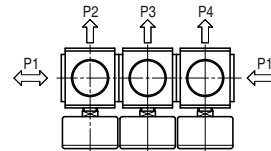


KREG



KRBE

KNOCKS
FLUID-TECHNIK



KRBE

Order Codification

KREG-014/8G	Pressure regulator 1/4" 0.5-8 bar with integrated gauge
KRBE-014/8G	Manifold regulator with continuous pressure supply 1/4" 0.5-8 bar and integrated gauge
KREG-114/8	Pressure regulator 1/4" 0.5-8 bar
KRBE-114/8	Manifold regulator with continuous pressure supply 1/4" 0.5-8 bar
KREG-212/8	Pressure regulator 1/2" 0.5-8 bar
KRBE-212/8	Manifold regulator with continuous pressure supply 1/2" 0.5-8 bar
KREG-41/8	Pressure regulator 1" 0.5-8 bar

Accessories

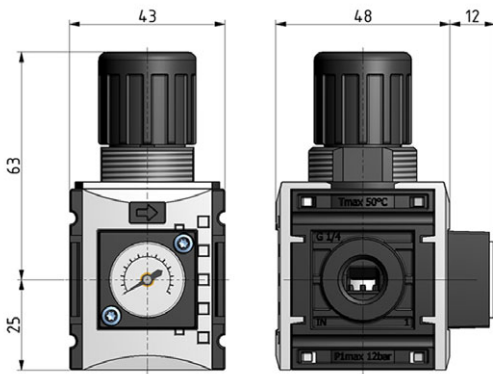
For Series	Coupling Kit	Coupling Kit Wall Mounting	Mounting Bracket	Panel Mounting + Nut	Gauge
KREG0	KKOP0	KKOP0W	KBW0-1225	KBW0-1227 + C0034	Mano Integrated
KREG1	KKOP1	KKOP1W	KBW1-1225	KBW1-1228 + SM.1	MANO-0-10B-1/4"
KREG2	KKOP2	KKOP2W	KBW2-1225	KBW2-1227 + SM.2	MANO-0-10B-1/4"
KREG4	KKOP4	KKOP4W	KBW4-1225	C33-42 nut only	MANO-0-10B-1/4"

See also page 3.01.02

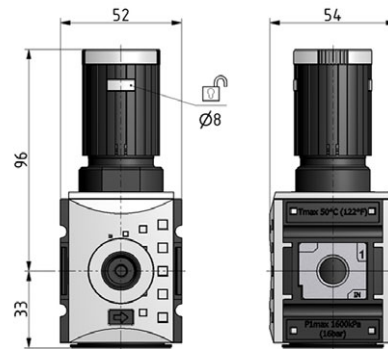
Technical modifications keep in reserve !

(2021/02)

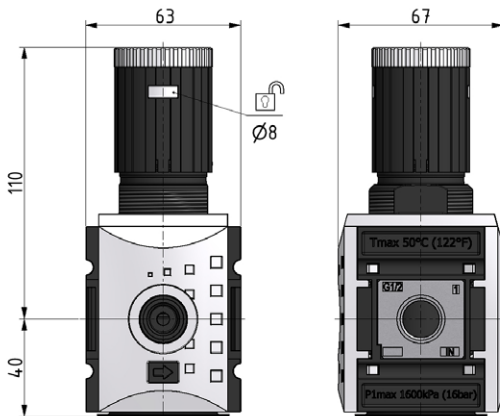
Dimensions (mm) KREG0



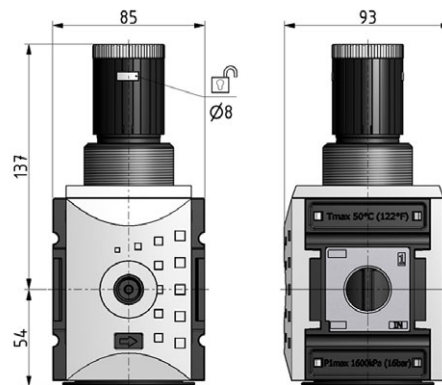
Dimensions (mm) KREG1



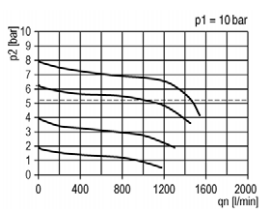
Dimensions (mm) KREG2



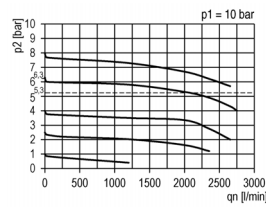
Dimensions (mm) KREG4



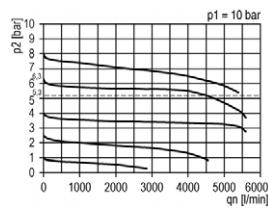
KREG0



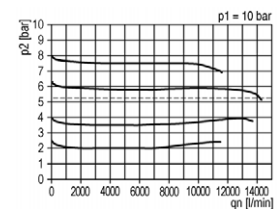
KREG1



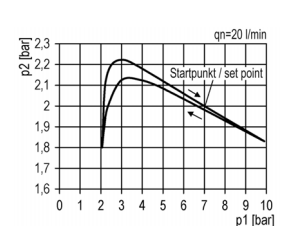
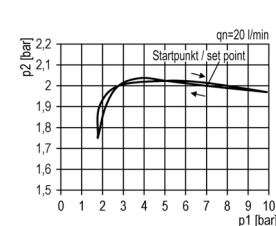
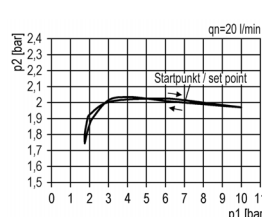
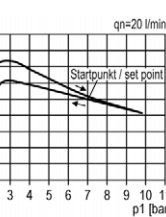
KREG2



KREG4



FLOW



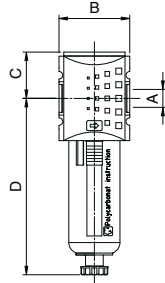
PRESSURE

Technical modifications keep in reserve !

(2020/10)

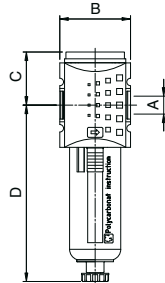
MORE EXTENSIONS

PREFILTER 0.3 µm



Size	Type	Connection		Dimensions in mm			Flow rate l/min
		A		B	C	D	
0	KPFI-014	G 1/4	optional NPT-thread (except for size 0)	43	27	105	350 ²⁾
1	KPFI-114	G 1/4		52	34	128.5	500
1	KPFI-138	G 3/8		52	34	128.5	500
2	KPFI-238	G 3/8		63	42.5	147	580
2	KPFI-212	G 1/2		63	42.5	147	580
4	KPFI-434	G 3/4		85	63	192	1500
4	KPFI-41	G 1		85	63	192	1500

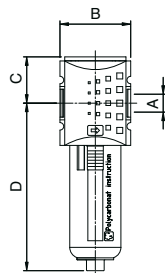
FINEFILTER 0.01 µm, REMAINING OIL CONTENT < 0.01 mg/m³



0	KCFI-014	G 1/4	optional NPT-thread (except for size 0)	43	27	105	350 ³⁾
1	KCFI-114	G 1/4		52	38	130.5	350
1	KCFI-138	G 3/8		52	38	130.5	350
2	KCFI-238	G 3/8		63	48	147	500
2	KCFI-212	G 1/2		63	48	147	500
4	KCFI-434	G 3/4		85	63	192	1500
4	KCFI-41	G 1		85	63	192	1500

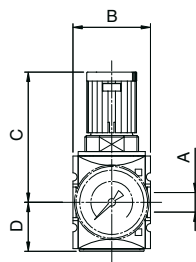
ACTIVATED-CARBON FILTER ¹⁾

REMAINING OIL CONTENT < 0.005 mg/m³



0	KAFI-014	G 1/4	optional NPT-thread (except for size 0)	43	27	98	600 ⁴⁾
1	KAFI-114	G 1/4		52	34	124	650
1	KAFI-138	G 3/8		52	34	124	650
2	KAFI-238	G 3/8		63	43	141	1300
2	KAFI-212	G 1/2		63	43	141	1300
4	KAFI-434	G 3/4		85	58	184	2000
4	KAFI-41	G 1		85	58	184	2000

PRECISION REGULATOR



1	KPRG-114	G 1/4	optional NPT-thread	52	95.5	33	2200
1	KPRG-138	G 3/8		52	95.5	33	2700
2	KPRG-238	G 3/8		63	110	39.5	4300
2	KPRG-212	G 1/2		63	110	39.5	5000

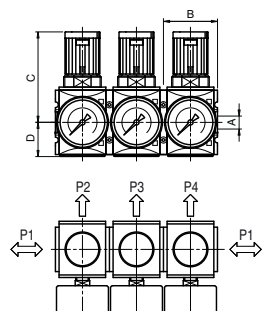
1) p₁ = 6 bar

2) KPFI at p₁ = 6 bar and pressure drop Δp = 0.02 bar

3) KCFI at p₁ = 6 bar and pressure drop Δp = 0.09 bar

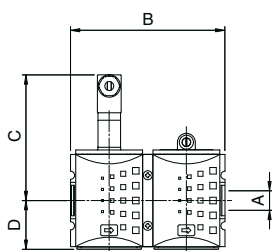
4) KAFI at p₁ = 6 bar and pressure drop Δp = 0.2 bar

PRECISION REGULATOR
WITH CONTINUOUS PRESSURE SUPPLY



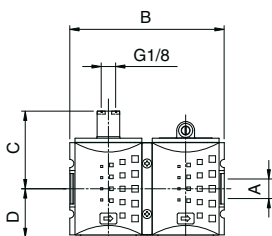
Size	Type	Connection A	Dimensions in mm			Flow rate l/min	
			B	C	D		
1	KPRB-114	G 1/4	optional NPT-thread	52	95.5	32.5	2200
1	KPRB-138	G 3/8		52	95.5	32.5	2700
2	KPRG-238	G 3/8		63	110	39.5	4300
2	KPRG-212	G 1/2		63	110	39.5	5000

FILLING UNIT ELECTRIC CONTROL



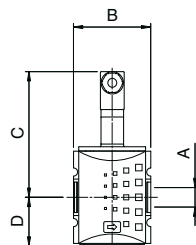
0	K2SA-014	G 1/4	optional NPT-tthread (except for size 0)	86	93	37	1300
1	K2SA-114	G 1/4		104	84.5	33	1300
1	K2SA-138	G 3/8		104	84.5	33	1300
2	K2SA-238	G 3/8		126	93.5	56.5	3400
2	K2SA-212	G 1/2		126	93.5	56.5	3400
4	K2SA-434	G 3/4		170	110.9	67	4200
4	K2SA-41	G 1		170	110.9	67	4200

FILLING UNIT PNEUMATIC CONTROL



0	K2SA-014I	G 1/4	optional NPT-tthread (except for size 0)	86	60	37	1300
1	K2SA-114I	G 1/4		104	52	33	1800
1	K2SA-138I	G 3/8		104	52	33	1800
2	K2SA-238I	G 3/8		126	60.8	56.5	3400
2	K2SA-212I	G 1/2		126	60.8	56.5	3400
4	K2SA-434I	G 3/4		170	78.2	67	4200
4	K2SA-41I	G 1		170	78.2	67	4200

3/2 DIRECTIONAL-CONTROL VALVE ELECTRIC CONTROL


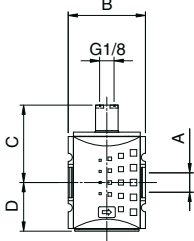



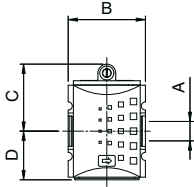
0	KSOV-014	G 1/4	optional NPT-tthread (except for size 0)	43	93	36.6	2000
1	KSOV-114	G 1/4		52	84.5	32.8	2000
1	KSOV-138	G 3/8		52	84.5	32.8	2000
2	KSOV-238	G 3/8		63	93.5	56.5	4300
2	KSOV-212	G 1/2		63	93.5	56.5	4300
4	KSOV-434	G 3/4		85	110.9	102.3	12500
4	KSOV-41	G 1		85	110.9	102.3	12500

Pressure - min 2 bar - max 10 bar


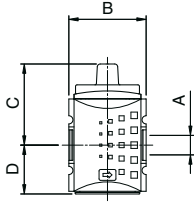
Technical modifications keep in reserve !


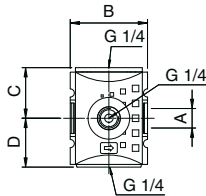
(2020/10)

	Size	Type	Connection A	Dimensions in mm			Flow rate l/min	
				B	C	D		
3/2 DIRECTIONAL-CONTROL VALVE PNEUMATIC CONTROL  	0	KSOV-014I	G 1/4	optional NPT-thread (except for size 0)	43	60.1	36.62	2000
	1	KSOV-114I	G 1/4		52	52	33	2000
	1	KSOV-138I	G 3/8		52	52	33	2000
	2	KSOV-238I	G 3/8		63	60.8	56.5	4300
	2	KSOV-212I	G 1/2		63	60.8	56.5	4300
	4	KSOV-434I	G 3/4		85	78.2	67	12500
	4	KSOV-41I	G 1		85	78.2	67	12500


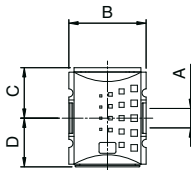

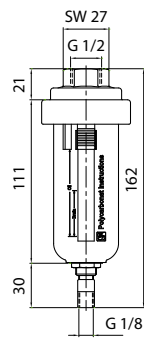
STARTING VALVE ADJUSTABLE FILLING  	0	KSSV-014	G 1/4	optional NPT-thread (except for size 0)	48	53	28	2000
	1	KSSV-114	G 1/4		52	45	33	1900
	1	KSSV-138	G 3/8		52	45	33	1900
	2	KSSV-238	G 3/8		63	53.5	58	4400
	2	KSSV-212	G 1/2		63	53.5	58	4400
	4	KSSV-434	G 3/4		85	58.2	54	10000
	4	KSSV-41	G 1		85	58.2	54	10000

After an emergency stop or breakdown of the machine is the position of the cylinders and the bistable valves not like the normal reposition. If you push the start button the machine brutally restarts due to lack of contre pressure. Cylinders move at high speed and full power till end-of-stroke. A soft starting valve brings the installation on pressure with a low adjustable flow. When a certain % of the incoming pressure is reached, the soft starting valve goes to full flow.

BALL VALVE LOCKABLE WITH PADLOCK  	0	KBAV-014	G 1/4	optional NPT-thread (except for size 0)	43	51	25	2600
	1	KBAV-114	G 1/4		52	54,3	33	1900
	1	KBAV-138	G 3/8		52	54,3	33	1900
	2	KBAM-238	G 3/8		63	70.5	56.5	5000
	2	KBAM-212	G 1/2		63	70.5	56.5	5000
	4	KBAM-434	G 3/4		85	93.7	51	14000
	4	KBAM-41	G 1		85	93.7	51	14000

T-DISTRIBUTOR¹⁾  	0	KDIS-014	G 1/4	optional NPT-thread (except for size 0)	43	28,5	25	2700
	1	KDIS-114	G 1/4		52	34.5	31	2700
	1	KDIS-138	G 3/8		52	34.5	31	3600
	2	KDIS-238	G 3/8		63	43	37.5	7250
	2	KDIS-212	G 1/2		63	43	37.5	7250
	4	KDIS-434	G 3/4		85	58.5	51	18000
	4	KDIS-41	G 1		85	58.5	51	18000

1) P/E-transformer mountable

	Size	Type	Connection A	Dimensions in mm			Flow rate l/min	
				B	C	D		
NON-RETURN VALVE  	0	KREV-014	G 1/4	optional NPT-thread (except for size 0)	43	27	39	800
	1	KREV-114	G 1/4		52	34	33	1250
	1	KREV-138	G 3/8		52	34	33	1250
	2	KREV-238	G 3/8		63	43	37.5	4500
	2	KREV-212	G 1/2		63	43	37.5	4500
CONDENSATE DRAIN  	3	KA-212 AM	G 1/2					

Technical modifications keep in reserve !

(2020/10)