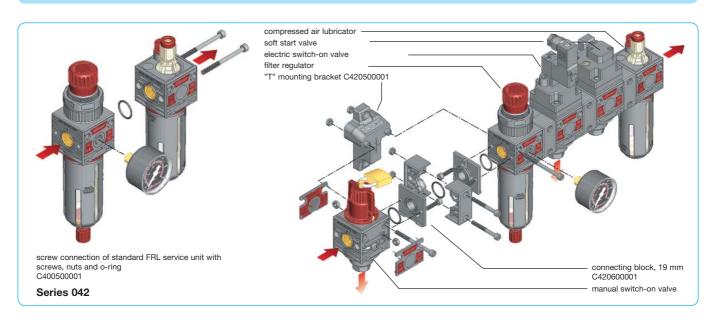
# **FRL Service Units**

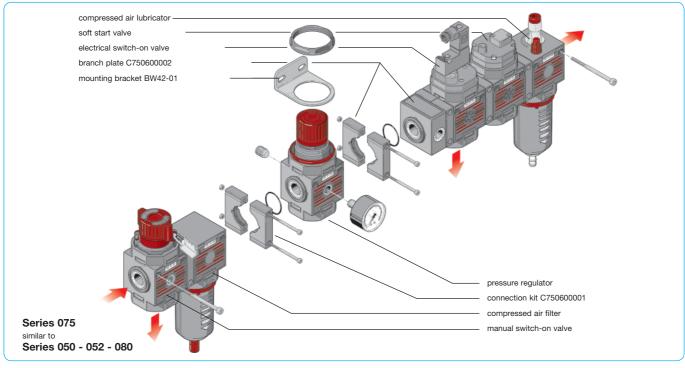
Description	Pressure range bar	Connection thread	Device	Page
made of plastic, 2- and 3-part	0 8 / 12 bar	G¼ - G1	C2, C3	19.03
switch-on and soft start valve for C2, C3		G¼ - G¾	A0, S0, V0	19.05
"Midi" series made of zinc die-cast, 2- and 3-part	0.2 4 / 17 bar	G1/4 - G1/2	C10, C11	19.06
"Miniature" series, 2- and 3-part	0.2 4 / 9 bar	G1/8, G1/4	C500	19.07
soft start valve / electric switching valve for "cube" se	eries	G% - G¾	S, SC, SSA	19.08
"Cube" series modular, 2- and 3-part	0.3 9 bar	G1/8 - G3/4	C35, C75, C105	19.09
accessories für "cube" series			PK, PD	19.10
accessories für "cube" series			AKV, SV, DK, BB	19.11
series "D", made of aluminium	0.3 3 / 15 bar	G1//8 - G2	CD	19.12
"Maxi" series, robust, made of zinc die-cast, 2- and 3-part	0.2 4 / 17 bar	G1/4 - G1	C20, C21	19.13
brass, many variations, up to 50 bar	0.2 3 / 15 bar	G1//8 - G2	CM	19.14
"Standard" series, robust	0.2 4 / 17 bar	G¼ - G2	C630	19.15
drain valve	max. 21 bar		SA, RK	19.16

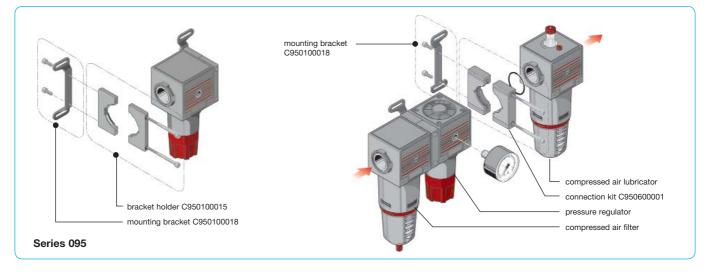


19 FRL Service Units

# **Assembly Diagrams for Plastic FRL Service Units**







# **Compressed Air FRL Service Unit Made of Plastic**

Description Made up of modular components which can be combined to form compact units.

Switch-on and soft start valves available as additional modules. Media compressed air or non-corrosive gases

max. 15 bar, max. 7 bar at lubricator with oil level indicator G½ or G¼ at series 095, on both sides of the body, one screw plug supplied Supply pressure Gauge port

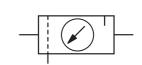
Filter element

20 μm, optionally 5 μm, made of sintered polyethylene plastic version with bayonet catch, series 042 with connection thread Bowl manual drain with semiautomatic drain, optionally automatic drain Oil refilling
Oil level indicator optionally with semiautomatic oil refilling without need to interrupt operation if the oil level falls below the limit value, a float will close a signal contact. Contact: NO Voltage: max. 115 V

Temperature range 0 °C to 50 °C / 32 °F to 122 °F

nylon, POM at series 042 polyamide NBR/Buna-N Body: Bowl: Elastomer: Material

Inner valve: brass Thread insert: brass



G1/4 up to G1

A B C consisting design rate thread number

FRI	L uni	it, 2- <sub> </sub>	part	P <sub>1</sub> : max. 15 bar, P <sub>2</sub> : 08 bar, 20 µm, semiautomatic drain, with pressure gauge			C2	
84 126	198 239	126 148	B+L042 B+L050	plastic plastic/	48 78	800 1300	G¼ G%	C242-02HC C250-03HC
126	239	148	B+L050 B+L052	bowl guard	76 84	1 400	G% G½	C250-03HC C252-04HC
151 226	276 276	173 173	B+L075 B+L080		132 138	2200 2300	G½ G¾	C275-04HC C280-06HC
225	411	237	B+L095		672	11200	G1	C295-08HC

FR	FRL unit, 3-part  P1: max. 15 bar, P2: 08 bar, 20 µm, semiautomatic drain, with pressure gauge					C3		
126	198	126	F+R+L042	plastic	48	800	G1/4	C342-02HC
188	239	148	F+R+L050	plastic/	78	1300	G%	C350-03HC
188	239	148	F+R+L052	bowl guard	84	1 400	G1/2	C352-04HC
226	276	173	F+R+L075	-	132	2200	G1/2	C375-04HC
290	276	173	F+R+L080		138	2300	G¾	C380-06HC
335	411	237	F+R+L095		672	11200	G1	C395-08HC



C242 with plastic bowl

# Special options, add the appropriate letter or number

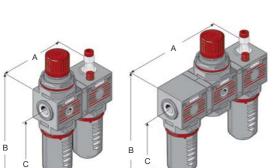
5 µm filter element		for C.42 to C.80	C0. <b>G</b> .
012 bar pressure range		for C.95 for C.42 to C.80	C.95-0. <b>G</b> . C0 <b>D</b>
		for C.95	C.95-0 <b>D</b>
automatic drain	C400200130	for all devices	C0 <b>R</b>
semiautomatic oil refilling	P <sub>min.</sub> 3 bar	for C.42 bis C.80	C0 <b>X65</b>
oil level indicator	P <sub>max.</sub> 7 bar max. 115 V / NO	for all devices	C0 <b>X66</b>



C375 with bowl guard

# Accessories, enclosed

mounting bracket	made of steel, mounting nut at the device	for C.42	BW30-01
		for C.50 to C.80	BW42-01
mounting bracket set	made of steel, mounting nut at the device	for C.95	BW00-02

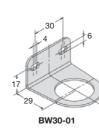


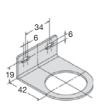
C3 \*1 at 10 bar supply pressure, 6 bar outlet pressure and 1 bar pressure drop \*2 04 = 0...4 bar, 10 = 0...10 bar, 16 = 0...16 bar

see separate spare parts list

Further details: see chapter for single devices

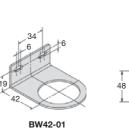
Spare parts:

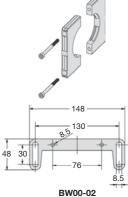




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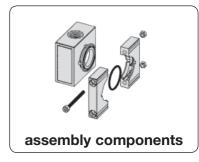


CAD





Connection kit With this interlocking kit, two compressed air instruments can be connected to one another without need for double nipples. This makes possible very compact layouts. : • Mounting using rotary clip and two o-rings. These allow regulators to be connected to other regulators or filters. • Instruments are connected to each other using screws, nuts and o-ring; C40 alternatively, a segmented connecting block can be used for instrument connection. C50 Instrument connection by means of a two-part connecting block. Branch plate with compressed air connection port G\% or G\% or both outlet plates.
 Supply plate for two pressure regulators through port G\%. Branch plate C40 C50 : • Branch plate with compressed air connection G¼.
Port installation of the branch plate is only possible using connecting blocks.

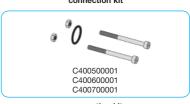


Description	Connection of instruments	for series	Order number	
-------------	---------------------------	---------------	-----------------	--

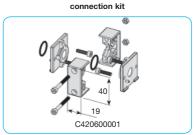
Connection kit	for connecting separate instruments		C
rotary clips with two o-rings screws, nuts and o-ring	R+F or R+R or F+F F+R+L or P+B+L B+L F+L or F+F	35 42 42 42	C350100018 C400500001 C400600001 C400700001
connection kit	for any two instruments	42 50/52 75 80	C420600001 C500600001 C750600001 C800600004



Connection kit	for connecting separate instruments		C
rotary clips with two o-rings	R+F or R+R or F+F	35	C350100018
screws, nuts and o-ring	F+R+L or P+B+L	42	C400500001
	B+L	42	C400600001
	F+L or F+F	42	C400700001
connection kit	for any two instruments	42	C420600001
		50/52	C500600001
		75	C750600001
		80	C800600004
		95	C950600001

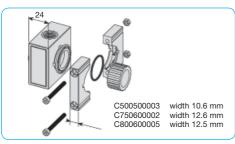


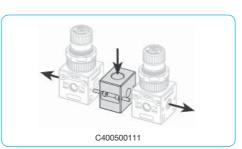
Branch plate	with compressed air connection port		C
outlet G1/8 outlet G1/4 outlet G1/8 and G1/4 outlet G1/8 and G1/4 supply G1/4 for two regulators outlet G1/4 outlet G1/4 outlet G1/4	with connection kit	42 42 42 42 42 50/52 75 80	C400500102 C400500108 C400500103 C420500003 C400500111 C500500003 C750600002 C800600005

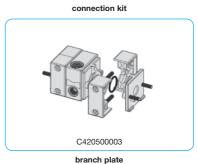


Mounting material			S/C
mounting bracket		for G1/4	BW30-01
mounting bracket		for G% to G%	BW42-01
wall mounting		for G1/4	C420500001
wall mounting		for G1	C950100018
bracket holder	required in absence of C9506	for G1	C950100015

connection kit only for C500600001 width 10.6 C750600001 width 12.5 C800600004 C950600001 width 12.5 width 16.0



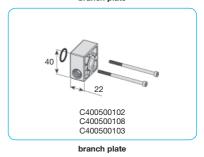




branch plate - 33 - 30 0 12 Ø 30 BW42-01 BW30-01 C420500001

mounting material

supply 130 C950100018 C950100015 wall mounting







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#### **Switch-On and Soft Start Valve Made of Plastic**

Manual switch-on Manual switch-on/off valve which relieves at switch-off. Tapped exhaust with connection thread G% or valve G%. Valve can be protected from unauthorised tampering by provided padlock. Wall mounting is possible through two drilled holes in the body. Maximum supply pressure is 15 bar.

Electric switch-on valve

The electrically-operated 3-port/2-way valve switches the air flow on or off. As standard, it is The electrically-operated 3-port/2-way valve switches the air low on or oil. As standard, it is supplied with a miniature valve or alternatively with a CNOMO valve and can be operated purely in a pneumatic way as option. Wall mounting is possible through two drilled holes in the body. Tapped exhaust with connection thread G½ or G½.

Maximum supply pressure is 3 to 10 bar.

Soft start valve

The soft start valve slowly pressurizes the system and switches over to full scale operation when 60% of the nominal pressure is reached. The pressure raising period can be set by an adjusting screw on top of the valve. Wall mounting is possible through two drilled holes in the body. Maximum supply pressure is 3 to 10 bar.

	imensi	ons	Description	Exhaust	FI	ow	Connection	Order
Α	В	С		port	ra	ite	thread	number
mm	mm	mm		G	m <sup>3</sup> /h* <sup>1</sup>	l/min*1	G	

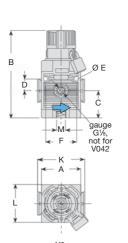
Ma	nual	3-p	ort/2-way valve		supply pres including pa		15 bar,	V0
42	110	45	manual switch-on	G1//8	96	1600	G1/4	V042-02
63	121	36	and switch-off of the	G1/4	156	2600	G¾	V050-03
63	121	36	compressed air circuit	G1/4	162	2700	G1/2	V052-04
75	138	42		G1/4	186	3100	G1/2	V075-04
137	138	42		G1/4	192	3200	G¾	V080-06

Ele	ctric	3-por	t/2-way valve		supply pres		bar	S0
42	143	42	electric switch-on	G1//s	96	1600	G1/4	S042-02
63	145	52	and switch-off of the	G1/4	156	2600	G%	S050-03
63	145	52	compressed air circuit	G1/4	162	2700	G1/2	S052-04
75	154	63		G1/4	186	3100	G1/2	S075-04
137	154	63		G1/4	192	3200	G¾	S080-06

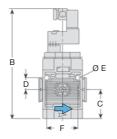
Sof	ft sta	irt va	alve	supply pres	<b>A0</b>		
42	105	42	slow pressurizing of the	96	1600	G1⁄4	A042-02
63	108	52	pneumatic plant,	156	2600	G¾	A050-03
63	108	52	delay time adjustable	162	2700	G1/2	A052-04
75	117	63		186	3100	G1/2	A075-04
137	117	63		192	3200	G¾	A080-06

# Special options, add the appropriate letter

24 V AC, 2 W	input supply voltage	for S0	S00. <b>X</b>
115 V AC, 1 W	input supply voltage	for S0	S00. <b>Y</b>
230 V AC, 1 W	input supply voltage	for S0	S00. <b>Z</b>
pneumatic control	C402600014, instead of electrical operation	for S0	S00. <b>P</b>

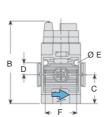


manual switch-on valve



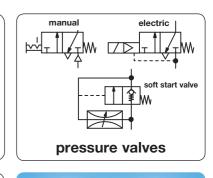


S0 electric switch-on valve





A0 soft start valve





V0 manual switch-on valve



S0 electric switch-on valve



	_	_			
Series	D	ØE	F	K	L
042	10.5	4.5	31	-	42
050/052	16	5.5	41	63	52
075/080	17.5	5.5	45	75	63





<sup>\*1</sup> at 10 bar supply pressure and 1 bar pressure drop

#### "Midi" FRL Service Unit

Description FRL service unit of small design and high flow. Equipped with pressure gauge.

Media Supply pressure

compressed air or non-corrosive gases
max. 11 bar for plastic bowl
max. 17 bar for metal bowl with sight glass
by plastic knob with snap-lock at C10, by T-handle with locknut at C11 Adjustment

Relieving function Gauge port

Material

relieving, optionally non-relieving G¼ on both sides of the body, one screw plug supplied

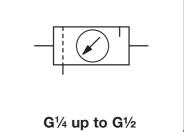
Filter element 40  $\mu m$ , optionally 5  $\mu m$ , made of polypropylene plastic version with or without bowl guard, Bowl

metal version with sight glass, optionally without manual drain as standard for max. 21 bar, automatic or semiautomatic drain as option 0 °C to 50 °C / 32 °F to 122 °F for plastic bowl and automatic or semiautomatic drain version 0 °C to 70 °C / 32 °F to 158 °F for metal bowl with sight glass

Body: zinc die-cast Elastomer: NBB/Buna-N Drainage automatic or semiautomatic drain as option for max. 12 bar Temperature range

Spring cage: glass fibre-reinforced plastic at C10, zinc die-cast at C11

		Bowl: zinc die-cast or plastic Inne		Inner valve: brass						
1	Di	mensio	ons	Combination	Bowl	Flo	ow	Connection	Order	
	Α	В	С	consisting	design	ra	te	thread	number	
l	mm	mm	mm	of	made of / with	m³/h*1	I/min*1	G		



FRL unit, 2-part				P <sub>1</sub> : max. 17 ba manual drain,			40 μm, e gauge	C10
176	235	146	B11+L606	metal/sight glass	66 114 132	1100 1900 2200	G¼ G¾ G½	C10-02BL-W C10-03BL-W C10-04BL-W

FRI	L uni	it, 3-	part	P <sub>1</sub> : max. 11/17 bar, P <sub>2</sub> : 0.39 bar, 40 μm, manual drain, relieving, with pressure gauge				C10
206	185	146	F602+R10+L606	plastic plastic/bowl guard metal/sight glass	66 I	1100	G¼	C10-02FRL-A C10-02FRL-B C10-02FRL-W
206	185	146	F602+R10+L606	plastic plastic/bowl guard metal/sight glass	102 I.	1700	G3/8	C10-03FRL-A C10-03FRL-B C10-03FRL-W
206	185	146	F602+R10+L606	plastic plastic/bowl guard metal/sight glass	138 I	2300	G½	C10-04FRL-A C10-04FRL-B C10-04FRL-W



C10-04BL-W

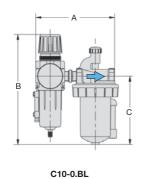
Special options, add the appropriate letter									
T-handle 5 µm filter element	including locknut	C <b>11</b> -0 C10-0 <b>G</b>							
NPT 0.2 4 bar pressure range	connection thread	C10-0 <b>N</b> C10-0 <b>B</b>							
0.517 bar pressure range semiautomatic drain automatic drain	RK500SY, max. 12 bar SA605MD, max. 12 bar	C10-0 <b>D</b> C10-0 <b>M</b> C10-0 <b>R</b>							

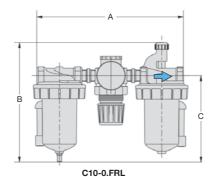
#### **Accessories**

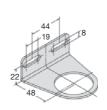
mounting bracket	made of steel	BW45-02
mounting nut	made of plastic	M45x1,5K
	made of aluminium	M45x1,5A



C10-04FRL-W









 $\ensuremath{^{\star1}}$  at 8 bar supply pressure, 6 bar outlet pressure and 1 bar pressure drop

Further details: see chapter for single devices Spare parts: see separate spare parts list

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BW45-02





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# Miniature FRL Service Unit

Description FRL unit of small and light design, ideal for limited space conditions. Equipped with pressure gauge.

Media Supply pressure

Adjustment Relieving function

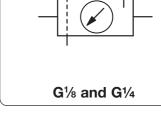
FRL unit of small and light design, ideal for limited space conditions. Equipp The instruments are connected to one another by means of double nipples. compressed air or non-corrosive gases max. 11 bar for plastic bowl max. 21 bar for metal bowl by plastic knob with snap-lock relieving, optionally non-relieving G½ on both sides of the body, one screw plug supplied 20 μm, optionally 5 μm, made of polypropylene plastic or metal version manual drain as standard for max. 21 bar. semiautomatic drain as option for Gauge port Filter element Bowl Drainage

Dime Α mm

plastic or metal version
manual drain as standard for max. 21 bar, semiautomatic drain as option for max. 12 bar
0 °C to 50 °C / 32 °F to 122 °F for plastic bowl and semiautomatic drain version
0 °C to 80 °C / 32 °F to 176 °F for metal bowl and spring
cage of fibreglass
Body:
aluminium
Spring cage: glass fibre-reinforced plastic
Inner valve: brass Temperature range Material

Spring cage: glass fibre-reinforced plastic

		Down. polyt	dietriarie di ziric die	Cast				
mensio	ons C	Combination consisting	Bowl	Flo		Connection thread	Order number	
ь	C	consisting	design	rai	.e	urreau	number	
mm	mm	of	made of	m³/h*1	I/min*1	G		J



FRL unit, 2-part					P <sub>1</sub> : max. 11 / 21 bar, P <sub>2</sub> : 0.39 bar, 20 µm, manual drain, relieving, with pressure gauge			
83	151	89	B548+L508	plastic metal	16	260	G1/8	C500-01BL-A C500-01BL-D
83	151	89	B548+L508	plastic metal	20	320	G1⁄4	C500-02BL-A C500-02BL-D

FRI	_ uni	t, 3-	-part		ax. 11/21 bar, P2: Ial drain, relieving,			C500
123	151	89	B504+R374+L508	plastic metal	16	260	G¹/⁄8	C500-01FRL-A C500-01FRL-D
123	151	89	B504+R374+L508	plastic metal	20	320	G1/4	C500-02FRL-A C500-02FRL-D



C500-02BL-A

### Special options, add the appropriate letter

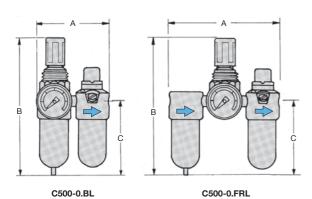
5 µm filter element		C500-0 <b>G</b>
0.24 bar pressure range		C500-0 <b>B</b>
semiautomatic drain	RK500SY, max. 12 bar	C500-0 <b>M</b>



C500-02FRL-A

#### **Accessories**

mounting bracket	made of steel	BW30-02
mounting nut	made of plastic	M30x1,5K
	made of aluminium	M30x1,5A



BW30-02



RK500SY

 $\ensuremath{^{\star 1}}$  at 7 bar supply pressure, 6 bar outlet pressure and 1 bar pressure drop

Further details: see chapter for single devices see separate spare parts list Spare parts:

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General

These valves increase the security of the machine operator and extend the machine's service life. The minimum operating pressure is 2 bar. Maximum operating pressure is 21 bar for the pneumatic and 10 bar for the electrical valve. Temperature range runs from 0 °C to 50 °C / 32 °F to 122 °F.

Pneumatic soft start valve

When connecting the air supply with the valve, the system is slowly filled with compressed air by an adjustable restrictor. The valve switches over to full scale operation when approx. 60% of the nominal pressure is reached. The pressure raising period can be set by adjusting the restrictor. Note: The valve is not suitable for exhausting the system.

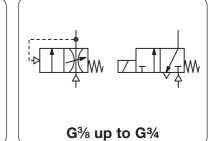
Electric soft start valve

As with the pneumatic soft start valve, the system is slowly filled with compressed air by an adjustable restrictor. However, switching over to full scale operation is carried out by the electrical switching valve, which receives the signal by an external pressure switch, for instance.

Electric 3-port/2-way valve

Soft start switch-on/off valve The electrically-operated 3-port/2-way valve is normally closed and directly controlled. It is capable of quickly pressurising and depressurising the system. The valve has a tapped exhaust.

By the soft start switch-on/off valve the system is slowly filled with compressed air. Full scale pressurising or depressurising is achieved by the electric 3-port/2-way valve. The valve has a tapped exhaust.



Description	for series	K <sub>v</sub> value		ow ate	Connection thread	Order number
		$(m^3/h)$	m <sup>3</sup> /h* <sup>1</sup>	I/min*1	G	
Soft start and switch	hing va	alve :	24 V DC			S/SC/SS
pneumatic soft start valve	75	3.0	210	3500	G%	SSA 75-03

Soft start and switch	ing va	alve	24 V DC			S/SC/SSA
pneumatic soft start valve	75	3.0 3.4	210 240	3500 4000	G% G½	SSA 75-03 SSA 75-04
i∍ <u>l TI</u> #W	105	6.1 7.2	432 510	7200 8500	G½ G¾	SSA105-04 SSA105-06
electric switching valve	75	3.0 3.4	210 240	3500 4000	G% G½	S 75-03M S 75-04M
ZI√ 1 1 1 1 M	105	5.6 7.2	432 510	6 600 8 500	G½ G¾	S105-04M S105-06M
soft start and switching valve	75	3.0 3.4	210 240	3500 4000	G¾ G½	SC 75-03M SC 75-04M
I I W	105	5.6 7.2	432 510	6 600 8 500	G½ G¾	SC105-04M SC105-06M



# Special options, add the appropriate letter

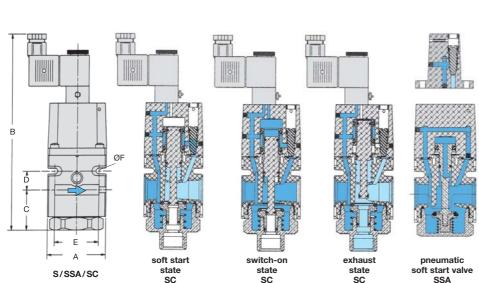
control voltage 230 V, 50 Hz

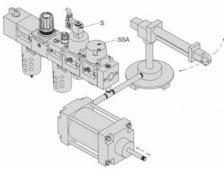
S . . . . . Y



SG	

Series	Α	B (SSA)	B (S/SC)	C (SSA)	C (SSC)	D	E	ØF
75	56	120	203	38	56	18	42	5.5
105	77	133	218	47	67	21	64	6.5





supply pressure 7 bar

typical pressurising and depressurising curve of the soft start switch-on/off combination at 10 I filling volume

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<sup>\*1</sup> at 7 bar supply pressure and 1 bar pressure drop

#### **Cube FRL Service Unit**

**Connection Order** 

number

thread

G

C105-06FRL-W

Description Modular cube FRL service unit of modern design. Equipped with pressure gauge.

compressed air or non-corrosive gases

Supply pressure max. 11 bar for plastic bowl, max. 17 bar for metal bowl with sight glass

Adjustment by plastic knob with snap-lock Relieving function relieving, optionally non-relieving

Combination

consisting

**Dimensions** 

В

mm

Α

mm

C

mm

G1/2 at C35 and C75, G1/4 at C105, on both sides of the body, one screw plug supplied Gauge port

 $20~\mu m$  or  $40~\mu m,$  optionally 5  $\mu m$  or 20  $\mu m,$  made of polypropylene Filter element

plastic version with or without bowl guard, metal version with or without all-around sight glass Bowl Drainage manual drain as standard for max. 21 bar, automatic or semiautomatic drain as option for max. 12 bar 0 °C to 50 °C / 32 °F to 122 °F for plastic bowl and automatic or semiautomatic drain version 0 °C to 70 °C / 32 °F to 158 °F for metal bowl with sight glass Temperature range

**Filter** 

element

μm

Material

Bowl

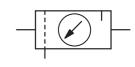
design

made of / with

Body: zinc die-cast at C35 and C75, Elastomer: NBR/Buna-N Inner valve: brass aluminium at C105 Spring cage: g Bowl: p glass fibre-reinforced plastic polyurethane or zinc die-cast

Flow

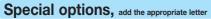
rate



<b>G</b> 1//8	up	to	<b>G</b> <sup>3</sup> / <sub>4</sub>
---------------	----	----	--------------------------------------

FRI	L uni	it, 2- <sub> </sub>	part				.9 bar, 20 / pressure g		C35 / C75 / C105
81	178	108	B+L35	plastic metal/sight glass	20	51	850	G1//8	C 35-01BL-A C 35-01BL-W
				plastic metal/sight glass		60	1000	G1/4	C 35-02BL-A C 35-02BL-W
112	208	138	B+L75	plastic metal/sight glass	40	102	1700	G¾	C 75-03BL-A C 75-03BL-W
				plastic metal/sight glass		114	1900	G1/2	C 75-04BL-A C 75-04BL-W
136	262	169	B+L105	plastic metal/sight glass	40	222	3700	G1/2	C105-04BL-A C105-04BL-W
				plastic metal/sight glass		246	4100	G¾	C105-06BL-A C105-06BL-W

				plastic metal/sight glass		246	4100	G¾	C105-06BL-A C105-06BL-W
FRI	_ uni	t, 3-	part				9 bar, 20 / 4 pressure ga		C35/C75/C105
122	178	108	F+R+L35	plastic metal/sight glass	20	51	850	G1//8	C 35-01FRL-A C 35-01FRL-W
				plastic metal/sight glass		60	1000	G1⁄4	C 35-02FRL-A C 35-02FRL-W
168	208	138	F+R+L75	plastic metal/sight glass	40	102	1700	G¾	C 75-03FRL-A C 75-03FRL-W
				plastic metal/sight glass		114	1900	G½	C 75-04FRL-A C 75-04FRL-W
204	262	169	F+R+L105	plastic metal/sight glass	40	222	3700	G1/2	C105-04FRL-A C105-04FRL-W
				plastic		246	4100	G¾	C105-04FRL-A

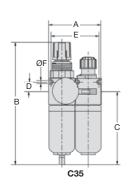


metal/sight glass

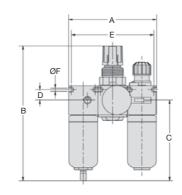
5 µm filter element				C0 <b>G</b>
semiautomatic drain	PKF35, piston drain,	max. 12 bar	for C35	C 35-0 <b>S</b>
	RK500SY, spring-loaded,	max. 12 bar	for all	$C\ldots \text{-}0\ldots \text{-}.\textbf{M}$
automatic drain	SA605MD,	max. 12 bar	for C75/C105	C 0 <b>R</b>

#### **Accessories**

mount. bracket at spring cage	for C35/C75	BW30-02	for C105	BW45-02
aluminium nut	for C35/C75	M30x1,5A	for C105	M45x1,5A
mounting bracket, at the side	for C35	BW00-03	for C75	BW00-04
			for C105	BW00-05



Spare parts:



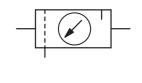
\*1 at 7 bar supply pressure, 6 bar outlet pressure and 1 bar pressure drop

see separate spare parts list

Further details: see chapter for single devices

BW45-02 PDF CAD www.aircom.net

BW30-02



C75-03BL-A

with plastic bowl



C75-03FRL-W with all-around sight glass



SA605MD RK500SY



PKF35

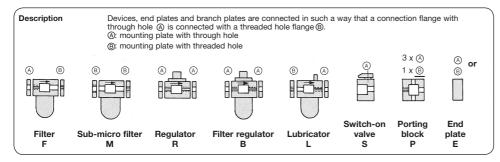
2-part	D	Е	ØF
C 35	14	73	4.5
C 75	18	98	5.5
C105	20	126	6.5

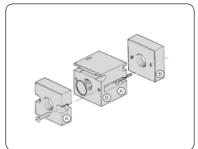
3-part	D	Е	ØF
C 35	14	113	4.5
C 75	18	154	5.5
C105	20	194	6.5



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# **Accessories for Cube Series**





Dimensions		Series	Connection	Order	Order	Order	)	
Α	В	С		thread	number	number	number	
mm	mm	mm		G				J

En	d pla	ate		with o-rings an	PK		
					end plate (A) for R, FR or WE	end plate B between F-S and F-Ö	end plate (A) and (B) for F or Ö
40	40	16	35	G1/8 G1/4 G3/8	PK3520-01 PK3520-02 PK3520-03	PK3540-01 PK3540-02 PK3540-03	PK3510-01 PK3510-02 PK3510-03
51	51	16	75	G1⁄4 G3⁄8 G1⁄2	PK7520-02 PK7520-03 PK7520-04	PK7540-02 PK7540-03 PK7540-04	PK7510-02 PK7510-03 PK7510-04
68	68 2	26	105	G¾ G½ G¾	PK1052-03 PK1052-04 PK1052-06	PK1054-03 PK1054-04 PK1054-06	PK1051-03 PK1051-04 PK1051-06



PK7520

<b>Direction plate</b>				enables - FRL unit mounting shifted by - combination of FRL units with		DP
5	40	40	35	complete with o-rings and screws	(A)and (B)	DP 35
8	51	51	75			DP 75
9	68	68	105			DP105

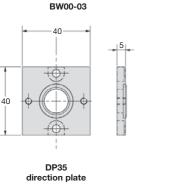


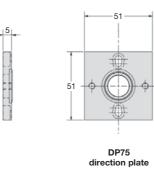
# Accessories mounting bracket 35 75 105 BW00-04 BW00-05 BW00-03 BW00-05 BW00-05

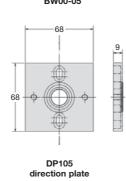


DP75









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Combination of FRL service units by means of switch-on valves, porting blocks and branch plates as well as end plates and direction plates. Description

Switch-on valve 3-port/2-way ball valve with full orifice size, lockable by padlock, brass ball mounted in PTFE

surrounding.
Further devices or pressure outlet ports can be mounted on the porting block. Porting block

The full nominal size remains Branch plate provides tap for unlubricated compressed air

All FRL units are equipped with connection threads. End plates are needed to...

– enlarge or reduce the thread on the FRL unit

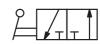
– permit easier removal of the FRL unit from fixed piping. End plate

Direction plate

 permit easier removal of the FHL unit from fixed piping.
 enables — FRL unit mounting shifted by 90°

 combination of FRL units with different sizes

 For side mounting on devices with threaded holes ®. Two mounting brackets are necessary for one FRL unit. Alternatively, an FRL unit can either be directly mounted via the threaded holes or by the means of a mounting bracket at the pressure regulator.
 Mounting bracket



G1/8 up to G3/4

Dimensions		ions	Series	Assembly	Mounting	Connecti	on thread	Order	
	Α	В	С			side	Tap	Inlet or	number
l	mm	mm	mm					outlet	

Swi	tch-	-on	valve	with exhaust, lockable by padlock	AKV/SV
40	61	40	35	G	1/8 AKV35-01 1/4 AKV35-02 3/8 AKV35-03
51	68	41	75	G	1¼ SV 75-02 3% SV 75-03 1½ SV 75-04
68	84	55	105		5½ SV105 -04 5% SV105 -06



SV75

Por	ting	blo	ck	for pressure tap or for mounting additional regulators		DK
49	40	40	35	(A) and (B) G1/4	G%	DK3510-3-2
51	51	51	75	G1/4	Bohrung	DK7510
				G1/4	G¾	DK7510-3-2
70	68	68	105	G1/2	G3/4	DK1051-6-4



DK7510

Brai	nch	pla	te	with connection thread at the	BB / PK			
23	23 40 40 <b>35</b>		35	as end plate or between F-R or R-Ö	A	G1/8 G1/8	G1//s G1//4	BB35-1-1 BB35-2-1
24	51	51	75	als Endplatte oder between F-R or R-Ö	A	G1/8 G1/8	G¼ G%	BB75-2-1 BB75-3-1
26 68 68 <b>105</b>		105	between F-R or R-Ö F-R or Ö-E	(A)	G¾	borehole	PK1054	
				between F-S or F-Ö	B	G¾	borehole	PK1055
				between F-S, if regulator or filter regulator follow		G¾	borehole	PK1056

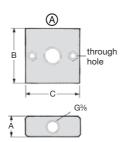


BB75-3-1

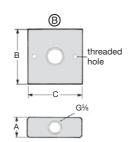




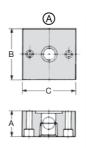
AKV/SV switch-on valve



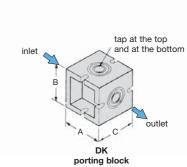
PK1054, PK1056 with groove for o-ring



PK1055 branch plate



BB branch plate



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FRL-

units

# FRL Service Unit Series "D", up to 30 bar

Solid, low-cost FRL service unit made of zinc die-cast equipped with pressure gauge. Wall mounting is possible through two drilled holes in the body. Description

Media

compressed air or non-corrosive gases
max. 12 bar for plastic bowl, max. 16 bar for metal bowl with sight glass, max. 30 bar for metal bowl without sight glass Supply pressure Adjustment

by plastic knob with snap-lock up to G½ by handwheel from G¾ to G1½ (CD.-1A) by T-handle from G1½ (CD.-12) on G¼ or G⅓ at CD.-01/-02, on both sides of the body, one screw plug supplied

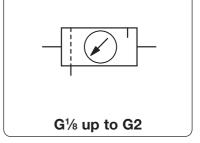
Gauge port Filter element Bowl

20 µm or 50 µm, optionally 5 µm or 50 µm, made of propylene plastic or metal version with or without sight glass **Relieving function** relieving, optionally non-relieving

semiautomatic drain as standard, optionally automatic (max. 16 bar) or manual drain for max. 30 bar 0 °C to 50 °C / 32 °F to 122 °F for plastic bowl or (semi)automatic drain version 0 °C to 70 °C / 32 °F to 158 °F for metal bowl with sight glass 0 °C to 80 °C / 32 °F to 176 °F for metal bowl without sight glass Drainage Temperature range

Body: zinc die-cast at G½ to G¼, aluminium at sizes G¾ to G2 Material Elastomer: NBR/Buna-N

polyurethane or zinc die-cast



١	Dimensions		ns	Combination	Bowl	Filter	Flow	Connection	Order	
A B C		С	consisting	design	element	rate	thread	number		
	mm	mm	mm	of	made of / with		m³/h*1	G		

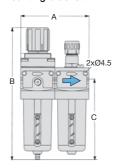
FR	L uni	it, 2-	part	P <sub>1</sub> : ma semia		CD2			
80	198	125	BD +LD	plastic metal/sight glass	20	26	430	G¹/⁄8	CD2-01L CD2-01
				plastic metal/sight glass	20	26	430	G1⁄4	CD2-02L CD2-02
128	250	146		metal/sight glass	s 50	102	1700	G% G½	CD2-03 CD2-04
208	323	180		metal/sight glass	50	288	4800	G¾ G1	CD2-06 CD2-08
240	282	172		metal/sight glass	50	372	6200	G1¼ G1½	CD2-10 CD2-1A
360	487	232		metal/sight glass	s 50	900	15000	G1½ G2	CD2-12 CD2-16
				_	10 / 10 1		01 00 / 50		

FRI	_ uni	t, 3-pa	art		P <sub>1</sub> : max. 12 / 16 bar, P <sub>2</sub> : 0.88 bar, 20 / 50 μm, semiautomatic drain, relieving, with gauge					
120	198	125	FD +RD	plastic metal/sight	alass	20	26	430	G1//8	CD3-01L CD3-01
			+LD	plastic metal/sight		20	26	430	G1⁄4	CD3-02L CD3-02
192	250	146		metal/sight	0	50	102	1700	G% G½	CD3-03 CD3-04
312	340	180		metal/sight	glass	50	288	4800	G¾ G1	CD3-06 CD3-08
330	260	172		metal/sight	glass	50	372	6200	G1¼ G1½	CD3-10 CD3-1A
500	385	255		metal/sight	glass	50	900	15000	G1½ G2	CD3-12 CD3-16

#### Special options, add the appropriate letter 5 µm filter element for G1/8 to G2 CD.-...**G** CD.-...**B** 0.3...3 bar pressure range 1 ...15 bar CD.-...**E** operating pressure 30 bar only for metal bowl (without sight glass) with manual drain CD . - . .NH manual drain max. 16 bar $\mathsf{CD}.\text{-}\dots \mathsf{H}$ automatic drain drainage by float valve, max. 16 bar for G% to G2 CD.-...**R**

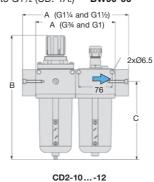
# **Accessories**

for G1/8 and G1/4 BW30-02 mounting bracket made of steel mounting nut M30x1,5K made of plastic for G1/8 and G1/4 mounting bracket made of steel for G% and G1/2 BW50-03 mounting nut made of plastic for G% and G1/2 M50x1,5K mounting bracket made of steel for G34 to G11/2 (CD.-1A.) BW00-06



CD2-01...-04

В Ċ







CD2-02L



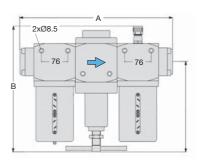
CD2-04



CD2-08



CD3-16



CD3-16

Further details: see chapter for single devices Spare parts: see separate spare parts list

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<sup>\*1</sup> at 8 bar supply pressure, 6 bar outlet pressure and 1 bar pressure drop

#### "Maxi" FRL Service Unit

"Maxi" FRL service units with pressure gauge are of modular design with exchangeable insert kits and have a high flow rate. All "maxi" instruments are easy to take out of fixed piping by simply removing the two fastening bolts on the insert kits. Description

compressed air or non-corrosive gases max. 17 bar

Supply pressure

Media

Material

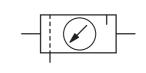
Adjustment Relieving function by plastic knob with snap-lock at C20, relieving, optionally non-relieving Gauge port G¼ on both sides of the body Drainage Temperature range

manual drain as standard, optionally automatic drain or sem 0 °C to 70 °C / 32 °F to 158 °F 0 °C to 50 °C / 32 °F to 122 °F for automatic or semiautomatic drain version

by T-handle with locknut at C21 Filter element  $40 \, \mu m$ , optionally 5  $\mu m$ , made of polypropylene metal version with sight glass optionally automatic drain or semiautomatic drain for max. 12 bar

Body: zinc die-cast Knob (C20): glass fibre-reinforced plastic Spring cage: zinc T-handle (C21): steel zinc die-cast

zinc die-cast NBR/Buna-N Sight glass: Inner valve: polyurethane brass and plastic



G¼ up to G1

Dimensions		Combination	Bowl Flow		w	Connection Order			
Α	В	С	consisting	design	rate		thread	number	
mm	mm	mm	of	made of / with	m³/h*1	I/min*1	G		
									Π

FRI	L uni	it, 2- <sub> </sub>	part		P <sub>1</sub> : max. 17 bar, P <sub>2</sub> : 0.39 bar, 40 μm, manual drain, relieving, with pressure gauge			
178	289	175	B+L20	metal / sight glass	102 174	1700 2900	G¼ G¾	C20-02BL-W C20-03BL-W
203	289	175	B+L20	metal / sight glass	276 390 402	4600 6500 6700	G½ G¾ G1	C20-04BL-W C20-06BL-W C20-08BL-W

FR	L uni	it, 3- <sub> </sub>	part		P <sub>1</sub> : max. 17 bar, P <sub>2</sub> : 0.39 bar, 40 µm, manual drain, relieving, with pressure gauge				
270	226	171	F+R+L20	metal / sight glass	102 174	1700 2900	G1⁄4 G³⁄8	C20-02FRL-W C20-03FRL-W	
292	226	171	F+R+L20	metal / sight glass	276 390 402	4600 6500 6700	G½ G¾ G1	C20-04FRL-W C20-06FRL-W C20-08FRL-W	



C20-06BL



C20-06FRL

# Special options, add the appropriate letter

T-handle	including locknut	C <b>21</b> -0W
5 µm filter element		C20-0W <b>G</b>
NPT	connection thread	C20-0W <b>N</b>
0.2 4 bar pressure range		C20-0W <b>B</b>
0.517 bar pressure range		C20-0W <b>D</b>
semiautomatic drain	RK500SY, max. 12 bar	C20-0W <b>M</b>
automatic drain	SA605MD, max. 12 bar	C20-0W <b>R</b>

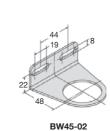
#### **Accessories**

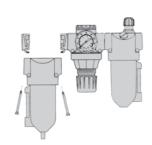
BW45-02 mounting bracket mounting at the spring cage mounting nut made of aluminium M45x1,5A mounting bracket set made of steel, consisting of two mounting brackets MK20-0100 porting block tap G1/4, for unlubricated compressed air IK20CP IK20V lockable 3-port/2-way valve switch-on valve



6.5 В C20-..FRL mit MK20-0100

C20-..BL mit MK20-0100





dismantling from fixed piping

 $^{\star 1}$  at 8 bar supply pressure, 6 bar outlet pressure and 1 bar pressure drop

Further details: see chapter for single devices Spare parts: see separate spare parts list

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# FRL Service Unit Made of Brass, up to 50 bar

Description Media Supply pressure Gauge port Filter element

Temperature range

Bowl Drainage

Material

Extremely robust FRL service unit made of brass.

compressed air, non-corrosive gases or liquids max. 50 bar at CM2, max. 30 bar at CM3, optionally max. 50 bar (all without drain)

by black plastic knob at CM.-01, by T-handle with locknut at CM.-02 to CM.-16

G/¼ or G/½ at CM.-01, on both sides of the body, one screw plug supplied 50 μm, optionally 5 μm, made of stainless steel **Relieving function** relieving, optionally non-relieving so pin, optionally a pin, made or stallness steel stallness steel version without sight glass at G½ to G1, brass version without sight glass at G½ and G2 screw plug as standard, optionally manual drain (max. 30 bar) or automatic drain (max. 16 bar)  $0\,^{\circ}\text{C}$  to  $80\,^{\circ}\text{C}$  /  $32\,^{\circ}\text{F}$  to  $176\,^{\circ}\text{F}$  FKM or EPDM  $0\,^{\circ}\text{C}$  to  $130\,^{\circ}\text{C}$  /  $22\,^{\circ}\text{F}$  to  $212\,^{\circ}\text{F}$  high temperature version for appropriately conditioned compressed air down to  $-20\,^{\circ}\text{C}$  /  $-4\,^{\circ}\text{F}$ , or low temperature version down to  $-40\,^{\circ}\text{C}$ / $-40\,^{\circ}\text{F}$ 

brass steel 316L / 1.4404 at G½ to G1, brass at G1½ and G2 FKM optionally EPDM plastic at sizes G½ and G¼, brass at G½ to G2 brass and plastic (not at option X54)

Body: Bowl: Elastomer:

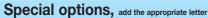
Knob: Inner valve:

G1/8 to G2, max. 50 bar -40 to 130 °C / -40 to 266 °F

1	Dimensions		ns	Combination	Bowl	Flo	w	Connection	Order	
	Α	В	С	consisting	design	rate		thread	number	
	mm	mm	mm	of	made of	m³/h*1	l/min*1	G		

FRI	L uni	t, 2-p	art	P <sub>1</sub> : max. 5 screw plu		P <sub>2</sub> : 0.58 bar, ving, with pressu	50 μm, ire gauge	CM2
90	150	80	BM+LM	brass	33	550	G1//8	CM2-01
138	220	123		stainless steel	51	850	G1⁄4	CM2-02
168	247	127			138	2 300	G1/2	CM2-04
198	295	168			342	5 700	G¾	CM2-06
198	295	168			342	5 700	G1	CM2-08
378	470	224			690	11500	G1½	CM2-12
378	470	224			690	11500	G2	CM2-B6
EDI	Luni	+ 2 n	ort	P <sub>1</sub> : max. 3	0 bar,	P <sub>2</sub> : 0.58 bar,	50 μm,	CM2

FRI	L uni	it, 3-	part	P <sub>1</sub> : max. 3 screw plu		P <sub>2</sub> : 0.58 bar, ng, with pressu	50 μm, re gauge	CM3
212	173	129	FM+R120+LM	stainless steel	51	850	G1/4	CM3-02
256	175	130			138	2300	G1/2	CM3-04
314	294	228			342	5700	G¾	CM3-06
314	294	228			342	5700	G1	CM3-08
548	385	257			690	11 500	G1½	CM3-12
548	385	257			690	11 500	G2	CM3-B6



5 μm filter element		for G1/4 and G3/4 for G1 for G11/2 and G2	CM <b>G</b> CM <b>G</b> CM <b>G</b>
NPT	connection thread		CM <b>N</b>
0.2 3 bar pressure range			CM <b>B</b>
115 bar pressure range	P <sub>1</sub> max. 50 bar		CM <b>D</b>
manual drain	max. 30 bar		CM <b>H</b>
automatic drain	made of stainless steel, max. 16 bar	for G1/4 to G2	CM <b>R</b>
down to -40 °C / -40 °F	low temperature version		CM <b>X51</b>
up to 130 °C / 266 °F	high temperature version		CM <b>X54</b>
EPDM elastomer	3 1 1 1 1 1 1 1 1 1		CM <b>E</b>
flange connection	see chapter for stainless steel devices /	flanges	CM <b>F.</b>



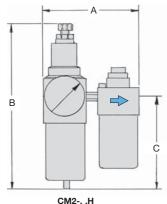
CM2-02H

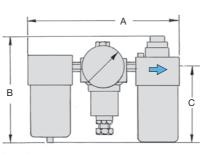


CM3-04H

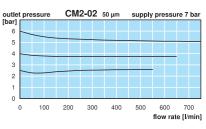
#### **Accessories**

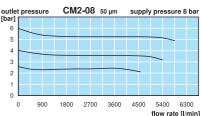
mounting bracket mounting nut	made of stainless steel	for G1//8	BW30-03S M30x1.5S
mounting bracket mounting nut	made of stainless steel	for G1/4	BW35-01S M35x1.5S
mounting hat mounting bracket mounting nut	made of stainless steel	for G½ to G1	BW50-01S M50x1,5S











Further details: see chapter for single devices see separate spare parts list Spare parts:

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<sup>\*1</sup> at 7 bar supply pressure, 6 bar outlet pressure and 1 bar pressure drop

# Standard FRL Service Unit

Description FRL service unit of small size and with high flow. Solid design, proven in operation.

Media compressed air, non-corrosive gases or liquids

Supply pressure Adjustment max. 17 bar for metal bowl with sight glass

by T-handle with locknut, by plastic knob with snap-lock on pilot regulator at size G2 Relieving function Air consumption only for pilot pressure at size G2

relieving, optionally non-relieving

G¼ on both sides of the body, one screw plug supplied Gauge port Filter element 40 μm, optionally 5 μm, made of polypropylene

Bowl metal version with sight glass

manual drain as standard optionally internal automatic drain or external automatic drain for max. 12 / 16 bar for max. 18 bar Drainage

0 °C to 70 °C / 32 °F to 158 °F for metal bowl with sight glass Temperature range Material

NBR/Buna-N Body: Bowl: zinc die-cast Elastomer: Inner valve: polyurethane, zinc die-cast or steel

G⅓ up to G2	

Di	mensi	ons	Combination	Bowl	Flow		Connection Order	
Α	В	С	consisting	design	rate		thread	number
mm	mm	mm	of	made of/with	m³/h*1	I/min*1	G	

FR	L ur	nit, 3	3-part	P <sub>1</sub> : max. 17 manual drair	C630			
400	267	197	F602 + R119, + L606	metal/sight glass	408 516	6800 8600	G¾ G1	C630-06FRL-W C630-08FRL-W
419	286	206		metal/sight glass	600 630	10 000 10 500	G1¼ G1½	C630-10FRL-W C630-12FRL-W
485	425	356		metal/sight glass	1590	26500	G2	C630-16FRL-W



C630

# Special options, add the appropriate letter

5 µm filter element		C630-0 <b>G</b>
NPT	connection thread	C630-0 <b>N</b>
0.2 4 bar pressure rang	e	C630-0 <b>B</b>
0.517 bar pressure rang	C630-0 <b>D</b>	
semiautomatic drain	RK500SY, max. 12 bar	C630-0 <b>M</b>
automatic drain	SA605MD, max. 12 bar	C630-0 <b>R</b>
flange connection	see chapter for stainless steel devices / flanges	C630-0 <b>F</b>

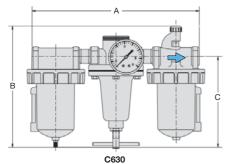


C630-03FRL-W with metal bowl and sight glass

#### **Accessories** mounting bracket made of steel for G¾ to G1½ BW00-24



with mounting flange

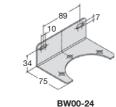


\*1 at 8 bar supply pressure, 6 bar outlet pressure and 1 bar pressure drop

see separate spare parts list

Further details: see chapter for single devices

Spare parts:



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RK500SY SA605MD



Manual drain

The manual drain can be opened by screwing it into the bowl.

Once the collected condensate reaches the drain hole, it is being relieved.

Semiautomatic drain

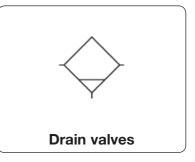
The semiautomatic drain semiautomatically separates condensates from compressed air or gas systems. After operating pressure switch-off the drain valve opens and the collected condensate is being relieved.

Automatic drain

The automatic drain fully automatically separates condensates from compressed air or gas systems. Once the float lifts from the valve seat caused by the condensate level, the condensate is being relieved. Operating pressure must be 2 bar minimum.

Temperature range

0 °C to 50 °C / 32 °F to 122 °F
0 °C to 80 °C / 32 °F to 176 °F for manual drain made of brass for appropriately conditioned compressed air down to -30 °C / -22 °F



	Order number	Operating pressure max. bar	For bowl type	For filter/ filter regulator	Description	Valve type
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<b>Drain valve</b>	SA/RK				
manual drain	made of brass	F20/F35F105/ F504/F602 / B11/B12/B20/B21/ B35B105/B548	all	21	SA600Y-71
	made of plastic	F20/F35F105/ F504/F602/ B11/B12/B20/B21/ B35B105/B548	all	21	AWF-10
semiautomatic	piston drain	F504	all	12	RK504SY
drain	plotori didiri	F602-02/-03	A/B/W	12	RK602SY
drainage after		1 002 027 00	70, 27 11		111100201
pressure switch-c	off				
•		B11/B12	all	12	4210
		F20	all	12	4212
		F35	all	12	PKF35
	spring-loaded	F20/F35F105/ F504/F602/ B11/B12/B20/B21/ B35B105/B548	all	12	RK500SY
automatic drain effective from	internal mounting	F20/F75/F602/B11, B12/B20/B21/B75	/ all	12	SA605MD
2 bar on		F20/F105/F602/ B20/B21/B105	all, except for W at F105	16	SA702MD
		F105/B105	W	12	SAF105MD
	external mounting	F602-04 to -20	A/B/W	18	SA602D
		F602-04 to -20	E/F	18	SA603D



SA600Y-71 AWF10 manual drains



RK504SY PKF35 piston drains



RK500SY semiautomatic drain



SA605MD SAF105MD internal automatic drains

Drain valves made of SST %-27 NPSM valve thread SA

automatic drain internal mounting F10/F11/B11-S all 12 SA10MDSS effective from 2 bar on



SA602D external automatic drain



SA603D external automatic drain



