

The Job of the filter is to remove any solid or liquid impurities from the air generated by the compressor.
Incoming air is rotated by the centrifuge unit. The heaviest liquid and solid particles are projected against the walls of the container and forced to adhere to it. As they accumulate they form drops that deposit on the bottom by gravity. The remaining solid particles are held back by the porous element depending on the filtering threshold.

The accumulated condensate is drained out through the drain - automatically when there is no pressure in the filter, or by hand pressing the button.

An automatic drain is available. It automatically eliminates condensate from the container whenever necessary, whatever the pressure.

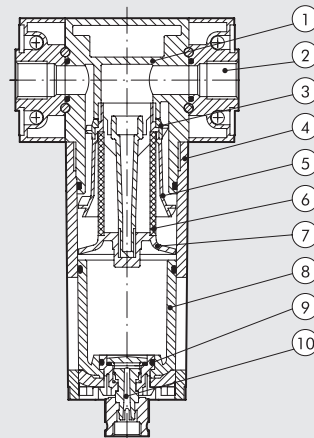
The transparent windows allow to view the level of condensation at 360°.



TECHNICAL DATA		FIL 100		FIL 200			FIL 300			FIL 400			
Threaded port		1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
Degree of filtration	µm	5 - 20 - 50		5 - 20 - 50			5 - 20 - 50			5 - 20 - 50			
Max. input pressure	MPa	1.5		1.3			1.3			1.3		1.3	
	bar	15		13			13			13		13	
	psi	217		188			188			188		188	
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1400		2400			3800			16500		20000	
ΔP 0.5 bar (0.05 MPa to 7 psi)	scfm	50		85			135			590		710	
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	2000		3100			5300			-		-	
ΔP 1 bar (0.1 MPa to 14 psi)	scfm	71		110			188			-		-	
Max temperature at 1 MPa; 10 bar; 145 psi	°C	50		50			50			50		50	
	°F	122		122			122			122		122	
Weight	kg	0.4		0.7			1.4			5.2		6	
Wall fixing screws		M4 x 50		M5 x 60			M5 x 70			M6 x 110		M6 x 110	
Bowl capacity	cm³	22		45			75			270		270	
Mounting position		Vertical		Vertical			Vertical			Vertical		Vertical	
Drain		RMSA - SAC		RMSA - SAC - RA			RMSA - RA			RMSA - RA		RMSA - RA	
		RMSA: drain with manual condensate discharge and automatic discharge at zero pressure											
		RA: automatic drain with condensate discharge, independent of pressure and flow rate. Version conveys the draining by inserting the pipe having internal diameter 6 mm in the lower port.											
		SAC: automatic drain with condensate discharge .Operates by depression – requires variable air take-offs.											
Fluid		Compressed air.											
Notes on use		The maximum inlet pressure for the version with RA automatic condensate drainage must not exceed 10 bar.											

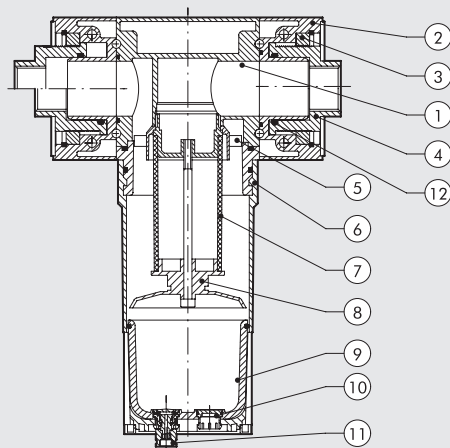
COMPONENTS FIL 100 - 200 - 300

- ① Technopolymer body
- ② Zamak end plate
- ③ Technopolymer centrifuge
- ④ Bowl: technopolymer for FIL 100 and FIL 200, metal for FIL 300
- ⑤ Technopolymer baffle
- ⑥ Sintered HDPE filter cartridge
- ⑦ Technopolymer screen
- ⑧ Clear technopolymer glass
- ⑨ NBR gaskets
- ⑩ Drain (RMSA)



COMPONENTS FIL 400

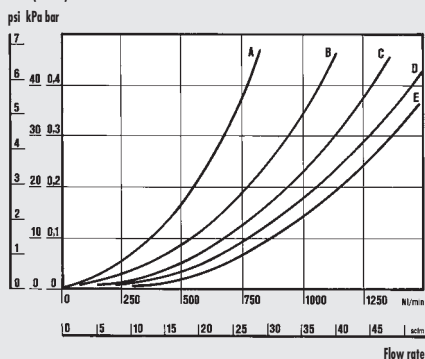
- ① Aluminium body
- ② Aluminium end plate
- ③ OT58 brass retaining ring
- ④ OT58 threaded bush, axial adjustment
- ⑤ Technopolymer centrifuge
- ⑥ Aluminium bowl
- ⑦ Sintered bronze filter cartridge
- ⑧ Aluminium screen
- ⑨ Clear technopolymer glass
- ⑩ Technopolymer plug
- ⑪ Drain (RMSA)
- ⑫ NBR gaskets



FLOW CHARTS

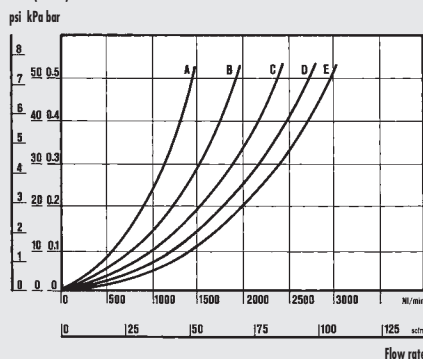
FIL 100 1/4 - 3/8

$\Delta P = (P_m - P_v)$



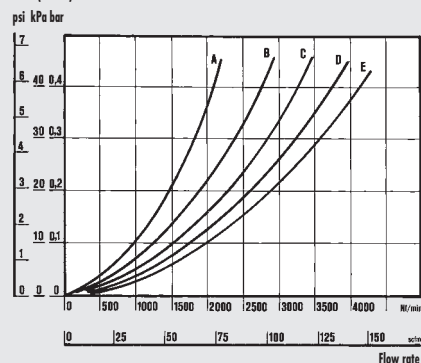
FIL 200 1/4 - 3/8 - 1/2

$\Delta P = (P_m - P_v)$



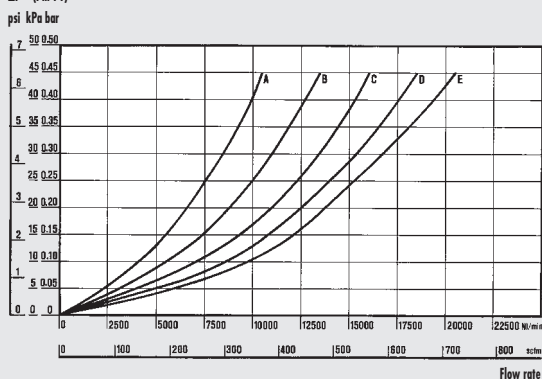
FIL 300 1/2 - 3/4 - 1

$\Delta P = (P_m - P_v)$



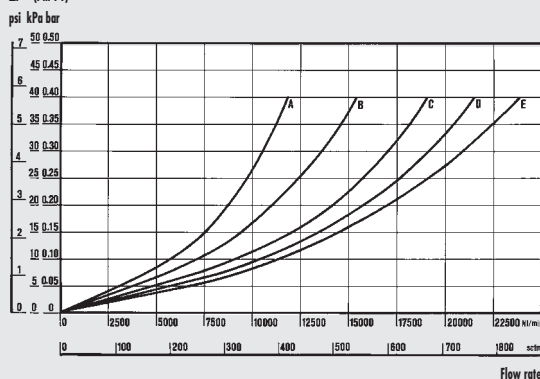
FIL 400 1"

$\Delta P = (P_m - P_v)$



FIL 400 2"

$\Delta P = (P_m - P_v)$

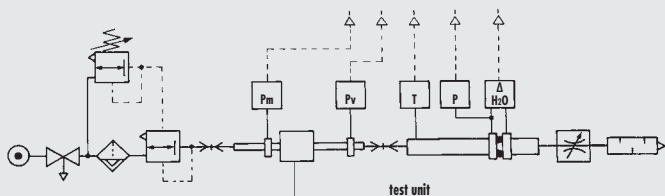


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Turin Polytechnic



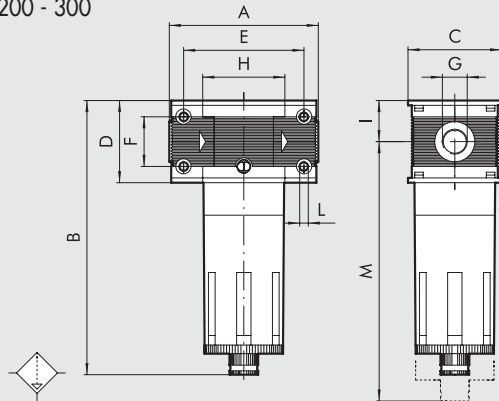
• Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.

(A) = 2 bar - 0.2 MPa - 29 psi (D) = 8 bar - 0.8 MPa - 116 psi
(B) = 4 bar - 0.4 MPa - 58 psi (E) = 10 bar - 1 MPa - 145 psi
(C) = 6 bar - 0.6 MPa - 87 psi

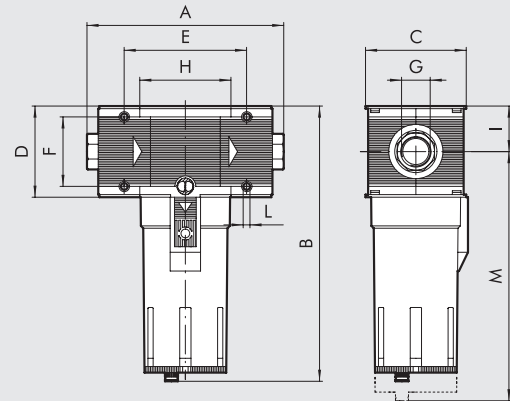


DIMENSIONS

100 - 200 - 300



400



	FIL 100		FIL 200			FIL 300			FIL 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78		93.5			110		112	225 to 255			283 to 313
B	RMSA	144	175			195			320			
	RA	-	179			199			324			
	SAC	148	179			-			-			
C		50	63			72			118			
D		43	55			65			105			
E		63	78.5			92			141.4			
F		26	36			42			80			
H		43	55.5			65			105.4			
I		21.5	27.5			32.5			52.5			
L		Hole for M4 screws	Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M	RMSA	137	196			215			378			
	RA	-	200			219			382			
	SAC	141	200			-			-			

NOTES

SYNOPTIC, SIZES AND VERSIONS

FIL ELEMENT	100 SIZE	1/4 THREADED PORT	20 DEGREE OF FILTRATION	RMSA TYPE OF DRAIN
FIL.	100	1/4	5 = 5 µm	RMSA
	200	3/8	20 = 20 µm	SAC
		1/4	50 = 50 µm	RMSA
		3/8		SAC
		1/2		RA*
	300	1/2		RMSA
		3/4		RA
	400	1		
		1		
		1 1/4		
		1 1/2		
		2		

RMSA: drain with manual condensate discharge and automatic discharge at zero pressure

RA: automatic drain with condensate discharge, independent of pressure and flow rate. (for size 300 and 400). Version conveys the draining by inserting the pipe having internal diameter 6 mm in the lower port.

SAC: automatic drain with condensate discharge.

Operates by depression – requires variable air take-offs.

(for size 100 and 200)

* For Skillair® 200 with RA, please contact our sales assistance department.

ORDERING CODES

Code	Description	Code	Description	Code	Description
Skillair® 100 FILTER		Skillair® 300 FILTER		Skillair® 400 FILTER	
3280001A	FIL 100 5 RMSA without end plates	4480001A	FIL 300 5 RMSA without end plates	6180001A	FIL 400 5 RMSA without end plates
3280007A	FIL 100 5 SAC without end plates	4480002A	FIL 300 20 RMSA without end plates	6180002A	FIL 400 20 RMSA without end plates
3280002A	FIL 100 20 RMSA without end plates	4480003A	FIL 300 50 RMSA without end plates	6180003A	FIL 400 50 RMSA without end plates
3280008A	FIL 100 20 SAC without end plates	4480004A	FIL 300 5 RA without end plates	6180004A	FIL 400 5 RA without end plates
3280003A	FIL 100 50 RMSA without end plates	4480005A	FIL 300 20 RA without end plates	6180005A	FIL 400 20 RA without end plates
3280009A	FIL 100 50 SAC without end plates	4480006A	FIL 300 50 RA without end plates	6180006A	FIL 400 50 RA without end plates
3280001	FIL 100 1/4 5 RMSA	4480001	FIL 300 1/2 5 RMSA	6180001	FIL 400 1 5 RMSA
3280007	FIL 100 1/4 5 SAC	4480002	FIL 300 1/2 20 RMSA	6180002	FIL 400 1 20 RMSA
3280002	FIL 100 1/4 20 RMSA	4480003	FIL 300 1/2 50 RMSA	6180003	FIL 400 1 50 RMSA
3280008	FIL 100 1/4 20 SAC	4480004	FIL 300 1/2 5 RA	6180004	FIL 400 1 5 RA
3280003	FIL 100 1/4 50 RMSA	4480005	FIL 300 1/2 20 RA	6180005	FIL 400 1 20 RA
3280009	FIL 100 1/4 50 SAC	4480006	FIL 300 1/2 50 RA	6180006	FIL 400 1 50 RA
3380001	FIL 100 3/8 5 RMSA	4580001	FIL 300 3/4 5 RMSA	6280001	FIL 400 1 1/4 5 RMSA
3380007	FIL 100 3/8 5 SAC	4580002	FIL 300 3/4 20 RMSA	6280002	FIL 400 1 1/4 20 RMSA
3380002	FIL 100 3/8 20 RMSA	4580003	FIL 300 3/4 50 RMSA	6280003	FIL 400 1 1/4 50 RMSA
3380008	FIL 100 3/8 20 SAC	4580004	FIL 300 3/4 5 RA	6280004	FIL 400 1 1/4 5 RA
3380003	FIL 100 3/8 50 RMSA	4580005	FIL 300 3/4 20 RA	6280005	FIL 400 1 1/4 20 RA
3380009	FIL 100 3/8 50 SAC	4580006	FIL 300 3/4 50 RA	6280006	FIL 400 1 1/4 50 RA
Skillair® 200 FILTER		4680001	FIL 300 1 5 RMSA	6380001	FIL 400 1 1/2 5 RMSA
3480001A	FIL 200 5 RMSA without end plates	4680002	FIL 300 1 20 RMSA	6380002	FIL 400 1 1/2 20 RMSA
3480007A	FIL 200 5 SAC without end plates	4680003	FIL 300 1 50 RMSA	6380003	FIL 400 1 1/2 50 RMSA
3480002A	FIL 200 20 RMSA without end plates	4680004	FIL 300 1 5 RA	6380004	FIL 400 1 1/2 5 RA
3480008A	FIL 200 20 SAC without end plates	4680005	FIL 300 1 20 RA	6380005	FIL 400 1 1/2 20 RA
3480003A	FIL 200 50 RMSA without end plates	4680006	FIL 300 1 50 RA	6380006	FIL 400 1 1/2 50 RA
3480009A	FIL 200 50 SAC without end plates			6480001	FIL 400 2 5 RMSA
3480001	FIL 200 1/4 5 RMSA			6480002	FIL 400 2 20 RMSA
3480007	FIL 200 1/4 5 SAC			6480003	FIL 400 2 50 RMSA
3480002	FIL 200 1/4 20 RMSA			6480004	FIL 400 2 5 RA
3480008	FIL 200 1/4 20 SAC			6480005	FIL 400 2 20 RA
3480003	FIL 200 1/4 50 RMSA			6480006	FIL 400 2 50 RA
3480009	FIL 200 1/4 50 SAC				
3580001	FIL 200 3/8 5 RMSA				
3580007	FIL 200 3/8 5 SAC				
3580002	FIL 200 3/8 20 RMSA				
3580008	FIL 200 3/8 20 SAC				
3580003	FIL 200 3/8 50 RMSA				
3580009	FIL 200 3/8 50 SAC				
3680001	FIL 200 1/2 5 RMSA				
3680007	FIL 200 1/2 5 SAC				
3680002	FIL 200 1/2 20 RMSA				
3680008	FIL 200 1/2 20 SAC				
3680003	FIL 200 1/2 50 RMSA				
3680009	FIL 200 1/2 50 SAC				

Skillair® DEPURATOR



The role of the depurator is to separate the liquid and solid particles contained in the compressed air with a high degree of efficiency. This separation is carried out using a special filtering element called a "coalescence cartridge".



TECHNICAL DATA		DEP 100		DEP 200			DEP 300			DEP 400			
Threaded port		1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
Degree of purification		99.97% at 0.01 μm		99.97% at 0.01 μm		99.97% at 0.01 μm		99.97% at 0.01 μm		99.97% at 0.01 μm			
Max. inlet pressure		MPa	1.5	1.3		1.3		1.3		1.3		1.3	
		bar	15	13		13		13		13		13	
		psi	217	188		188		188		188		188	
Suggested flow at 6 bar		Nl/min	230	360		500		500		2300		2250	
Maximum suggested flow rate		See next page											
Max temperature at: 1 MPa; 10 bar; 145 psi		°C	50	50		50		50		50		50	
		°F	122	122		122		122		122		122	
Weight		kg	0.4	0.9		1.4		1.4		4.2		5	
Wall fixing screws			M4 x 50	M5 x 60		M5 x 70		M5 x 70		M6 x 110		M6 x 110	
Bowl capacity		cm³	22	45		75		75		270		270	
Mounting position			Vertical	Vertical		Vertical		Vertical		Vertical		Vertical	
Drain			RMSA	RMSA		RMSA - RA		RMSA - RA		RMSA - RA		RMSA - RA	
		RMSA: drain with manual condensate discharge and automatic discharge at zero pressure											
		RA: automatic drain with condensate discharge, independent of pressure and flow rate. Version conveys the draining by inserting the pipe having internal diameter 6 mm in the lower port.											
Fluid		5 μm filtered air											
Notes on use		It is advisable to mount a 5 μm pre-filter in order to separate the solid particles first.											
		The maximum inlet pressure for the version with RA automatic condensate drainage must not exceed 10 bar.											

UNITS

Skillair® DEPURATOR

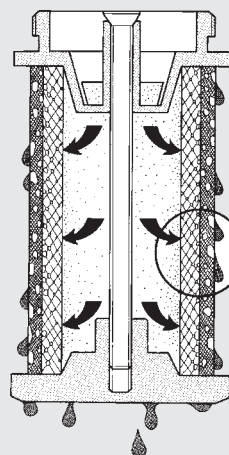
HOW THE COALESCENCE CARTRIDGE WORKS

Air from the mains – full of impurities – flows into the coalescence cartridge and then passes through the crossed micro-fibres that make up the cartridge. During this movement the liquid particles come into contact with the crossed micro-fibres and adhere to them. Due to the air pressure and gravity they join up with other micro-drops at each cross-over point and gradually increase in volume, leading to the physical phenomenon called coalescence. When they stop moving, the drops deposit on the outside of the cartridge, from which they detach and drop to the bottom.

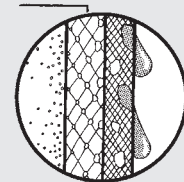
Since the volume of liquid leaving the cartridge is exactly the same as the drops arriving, the coalescence cartridge ought to work indefinitely. Solid particles are caught with the same efficiency but, unlike drops, they are not drained out and clog the cartridge.

To get round this problem, it is necessary to mount a 5 µm pre-filter before the fine oil filter to separate the solid particles first.

COALESCENCE FILTER



CROSSED MICRO-FIBRES

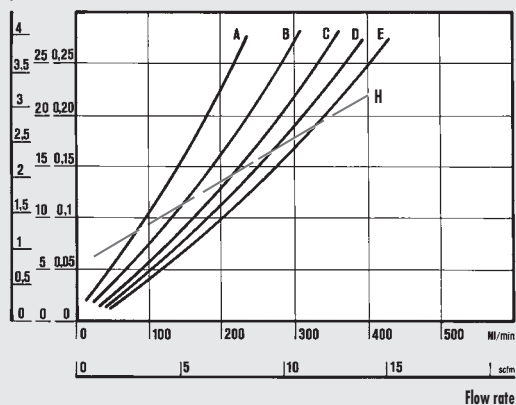


FLOW CHARTS

DEP 100 1/4 - 3/8

$$\Delta P = (P_m - P_v)$$

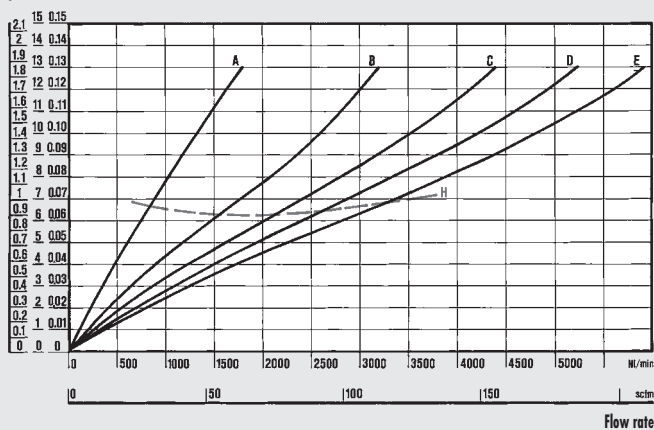
psi kPa bar



DEP 400 1"

$$\Delta P = (P_m - P_v)$$

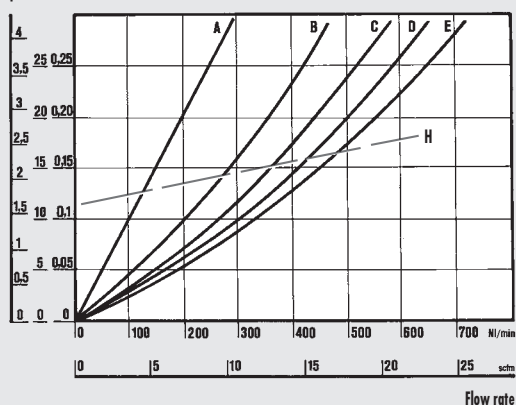
psi kPa bar



DEP 200 1/4 - 3/8 - 1/2

$$\Delta P = (P_m - P_v)$$

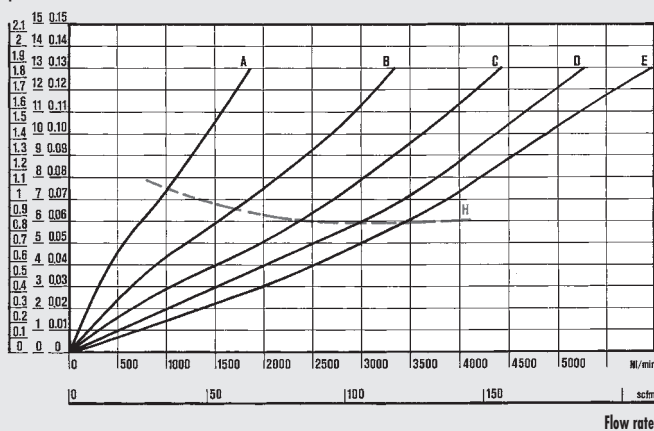
psi kPa bar



DEP 400 2"

$$\Delta P = (P_m - P_v)$$

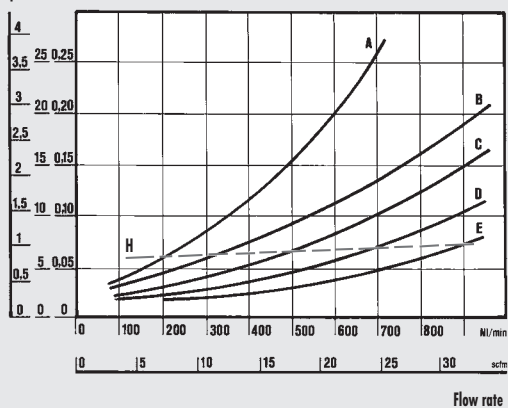
psi kPa bar



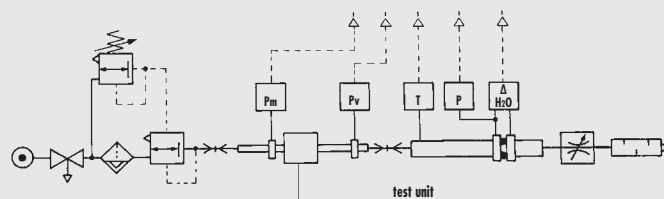
DEP 300 1/2 - 3/4 - 1

$$\Delta P = (P_m - P_v)$$

psi kPa bar



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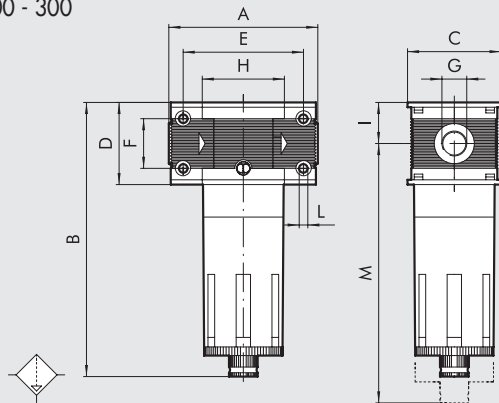


• Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.

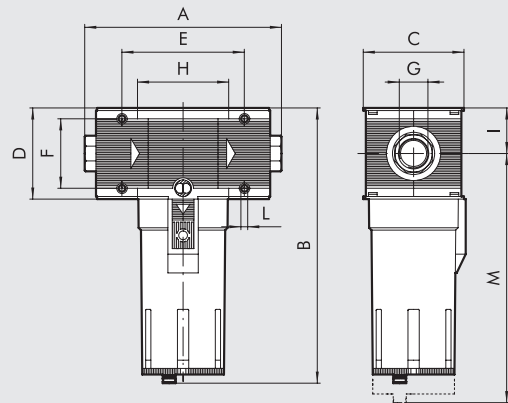
- | | |
|---------------------------------|--------------------------------|
| (A) = 2 bar - 0.2 MPa - 29 psi | (E) = 10 bar - 1 MPa - 145 psi |
| (B) = 4 bar - 0.4 MPa - 58 psi | (H) = maximum flow rate |
| (C) = 6 bar - 0.6 MPa - 87 psi | recommended for optimal |
| (D) = 8 bar - 0.8 MPa - 116 psi | operation |

DIMENSIONS

100 - 200 - 300



400



	DEP 100		DEP 200			DEP 300			DEP 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78		93.5			110		112	225 to 255			283 to 313
B	RMSA 144		175			195			320			
	RA -		-			199			324			
C	50		63			72			118			
D	43		55			65			105			
E	63		78.5			92			141.4			
F	26		36			42			80			
H	43		55.5			65			105.4			
I	21.5		27.5			32.5			52.5			
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M	RMSA 137		196			215			378			
	RA -		-			219			382			

SYNOPTIC, SIZES AND VERSIONS

DEP	100	1/4	RMSA
ELEMENT	SIZE	THREADED PORT	TYPE OF DRAIN
DEP	100	1/4	RMSA
	200	3/8	
		1/4	
		3/8	
	300	1/2	RMSA
		3/4	RA
	400	1	
		1	
		1 1/4	
		1 1/2	
		2	

RMSA: drain with manual condensate discharge and automatic discharge at zero pressure

RA: automatic drain with condensate discharge, independent of pressure and flow rate.
(for size 300 and 400).
Version conveys the draining by inserting the pipe having internal diameter 6 mm in the lower port.

ORDERING CODES

Code	Description	Code	Description	Code	Description
Skillair® 100 DEPURATOR		Skillair® 300 DEPURATOR		Skillair® 400 DEPURATOR	
3288001A	D 100 RMSA without end plates	4488001A	D 300 RMSA without end plates	6188001A	D 400 RMSA without end plates
3288001	D 100 1/4 RMSA	4488002A	D 300 RA without end plates	6188002A	D 400 RA without end plates
3388001	D 100 3/8 RMSA	4488001	D 300 1/2 RMSA	6188001	D 400 1 RMSA
		4488002	D 300 1/2 RA	6188002	D 400 1 RA
Skillair® 200 DEPURATOR		4588001	D 300 3/4 RMSA	6288001	D 400 1 1/4 RMSA
3488001A	D 200 RMSA without end plates	4588002	D 300 3/4 RA	6288002	D 400 1 1/4 RA
3488001	D 200 1/4 RMSA	4688001	D 300 1 RMSA	6388001	D 400 1 1/2 RMSA
3588001	D 200 3/8 RMSA	4688002	D 300 1 RA	6388002	D 400 1 1/2 RA
3688001	D 200 1/2 RMSA			6488001	D 400 2 RMSA
				6488002	D 400 2 RA

Skillair® ACTIVE CARBON FILTER



Active carbon filtering systems are the most efficient in the industry as they eliminate all traces of oils, solvents and hydrocarbons, and remove unpleasant odours from the air.

The operating principle is based on active carbon's ability to absorb the majority of the polluting particles in the air thanks to the presence of tiny passages inside the carbon granules.

The incoming air must be filtered (5 µm) and purified (0.01 µm) to increase the duration and efficiency of the cartridge.

The cartridge must be replaced at set intervals since there is no difference in load loss between an efficient cartridge and a saturated one.

N.B. To maintain the same performance and duration specified on the data sheet, the load loss (ΔP) must not exceed 75 mbar.



TECHNICAL DATA

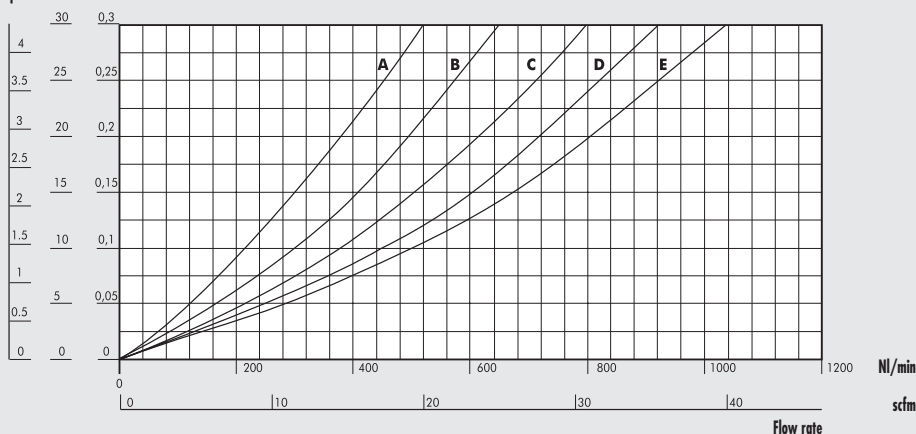
TECHNICAL DATA		AC 100		AC 200			AC 300			AC 400			
Threaded port		1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
Residual oil at 20°C *	mg/m³	0.003		0.003			0.003			0.003			
Duration of cartridge *	hours	4000		4000			4000			1000			
Max. inlet pressure	MPa	1.5		1.3			1.3			1.3			
	bar	15		13			13			13			
	psi	217		188			188			188			
Max temperature at: 1 MPa; 10 bar; 145 psi	°C	50		50			50			50			
	°F	122		122			122			122			
Weight	kg	0.4		0.9			1.4			4.2		5	
Wall fixing screws		M4 x 50		M5 x 60			M5 x 70			M6 x 110			
Mounting position		In any position.											
Fluid		0.01 µm filtered and depurated air.											
Notes on use		Upstream it's necessary to mount a coalescence filter depurator of 0.01 µm.											
* if the load loss of 75 mbar is not exceeded													

FLOW CHARTS

AC 100 1/4 - 3/8

ΔP = (Pm - Pv)

psi kPa bar



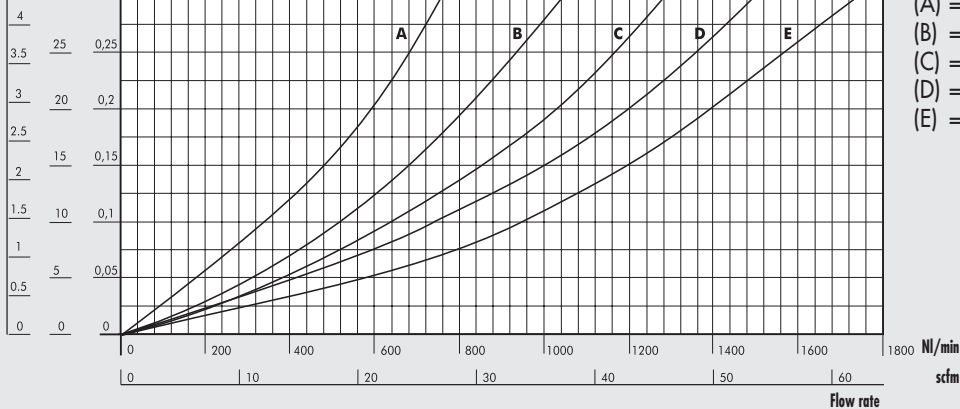
- (A) = 2 bar - 0.2 MPa - 29 psi
- (B) = 4 bar - 0.4 MPa - 58 psi
- (C) = 6 bar - 0.6 MPa - 87 psi
- (D) = 8 bar - 0.8 MPa - 116 psi
- (E) = 10 bar - 1 MPa - 145 psi

FLOW CHARTS

AC 200 1/4 - 3/8 - 1/2

 $\Delta P = (P_m - P_v)$

psi kPa bar

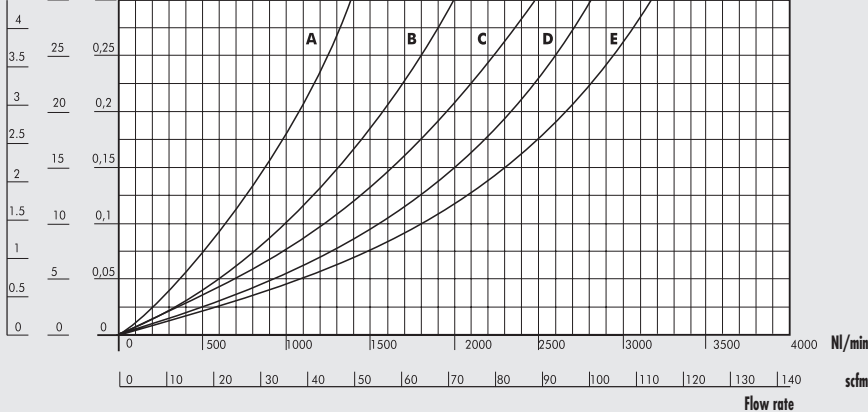


- (A) = 2 bar - 0.2 MPa - 29 psi
(B) = 4 bar - 0.4 MPa - 58 psi
(C) = 6 bar - 0.6 MPa - 87 psi
(D) = 8 bar - 0.8 MPa - 116 psi
(E) = 10 bar - 1 MPa - 145 psi

AC 300 1/2 - 3/4 - 1

 $\Delta P = (P_m - P_v)$

psi kPa bar

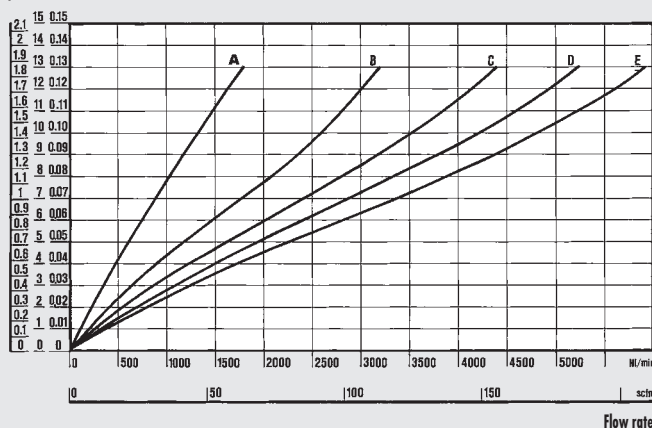


- (A) = 2 bar - 0.2 MPa - 29 psi
(B) = 4 bar - 0.4 MPa - 58 psi
(C) = 6 bar - 0.6 MPa - 87 psi
(D) = 8 bar - 0.8 MPa - 116 psi
(E) = 10 bar - 1 MPa - 145 psi

AC 400 1

 $\Delta P = (P_m - P_v)$

psi kPa bar

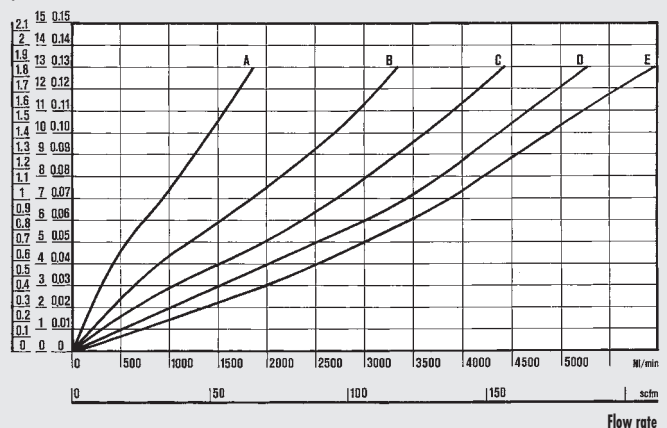


- (A) = 2 bar - 0.2 MPa - 29 psi
(B) = 4 bar - 0.4 MPa - 58 psi
(C) = 6 bar - 0.6 MPa - 87 psi
(D) = 8 bar - 0.8 MPa - 116 psi
(E) = 10 bar - 1 MPa - 145 psi

AC 400 2

 $\Delta P = (P_m - P_v)$

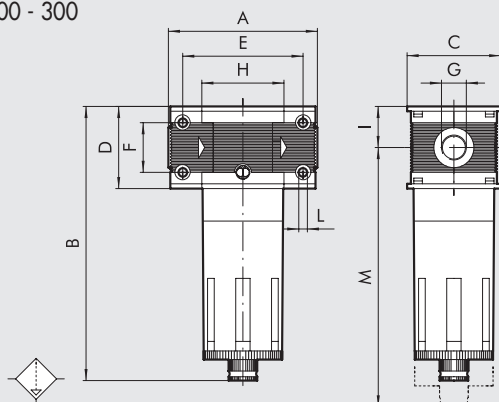
psi kPa bar



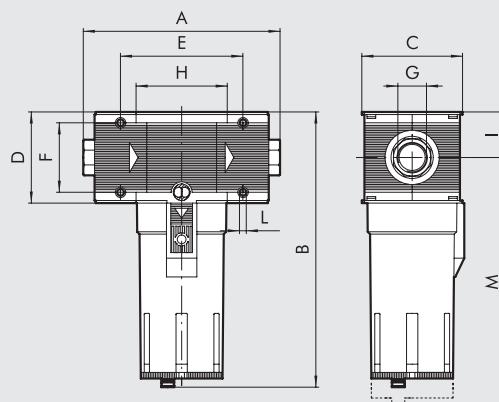
- (A) = 2 bar - 0.2 MPa - 29 psi
(B) = 4 bar - 0.4 MPa - 58 psi
(C) = 6 bar - 0.6 MPa - 87 psi
(D) = 8 bar - 0.8 MPa - 116 psi
(E) = 10 bar - 1 MPa - 145 psi

DIMENSIONS

100 - 200 - 300



400



	AC 100		AC 200			AC 300			AC 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78		93.5			110		112	225 to 255			283 to 313
B	144		175			195			320			
C	50		63			72			118			
D	43		55			65			105			
E	63		78.5			92			141.4			
F	26		36			42			80			
H	43		55.5			65			105.4			
I	21.5		27.5			32.5			52.5			
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M	137		196			215			378			

SYNOPTIC, SIZES AND VERSIONS

AC	100	1/4	RMSA
ELEMENT	SIZE	THREADED PORT	TYPE
AC = Active carbon	100	1/4	RMSA
	200	3/8	
		1/4	
		3/8	
	300	1/2	
		3/4	
	400	1	
		1	
		1 1/4	
		1 1/2	
		2	

RMSA: drain with manual condensate discharge and automatic discharge at zero pressure.

ORDERING CODES

Code	Description	Code	Description	Code	Description
Skillair® 100 ACTIVE CARBON FILTER					
3288003A	FIL AC 100 RMSA without end plates	4488003A	FIL AC 300 RMSA without end plates	6188003A	FIL AC 400 RMSA without end plates
3288003	FIL AC 100 1/4 RMSA	4488003	FIL AC 300 1/2 RMSA	6188003	FIL AC 400 1 RMSA
3388003	FIL AC 100 3/8 RMSA	4588003	FIL AC 300 3/4 RMSA	6288003	FIL AC 400 1 1/4 RMSA
Skillair® 200 ACTIVE CARBON FILTER					
3488003A	FIL AC 200 RMSA without end plates	4688003	FIL AC 300 1 RMSA	6388003	FIL AC 400 1 1/2 RMSA
3488003	FIL AC 200 1/4 RMSA			6488003	FIL AC 400 2 RMSA
3588003	FIL AC 200 3/8 RMSA				
3688003	FIL AC 200 1/2 RMSA				

DIAPHRAGM DRIER SERIES DRY 100 Skillair®



Skillair® diaphragm driers are used to reduce the air's moisture content by lowering the dew point, i.e. the temperature at which condensate starts to form. They use diaphragms with a new cross-fibre system that guarantees a lower consumption of regenerated air and hence power.

This is an all-in-one unit complete with a filter, purifier, air intake and drier. The air intake uses air that has been filtered and purified, but not dried, and sends it to utilities not requiring dry air. This is a much more efficient system as only the required quantity of compressed air is dried.

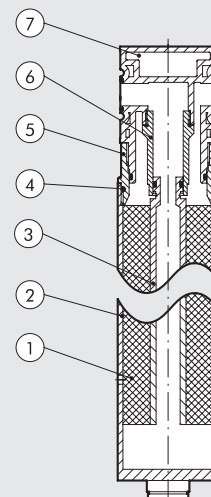
An alternative proposal is the drier by itself. As the Skillair® system is modular, it can be inserted in any type of assembly. It is important, however, to remember that only properly filtered and purified air must be supplied to the drier. It's advisable that the drier should be used at the highest pressure as possible.



TECHNICAL DATA		DRY 100	FIL + DEP + PA + DRY 100
Threaded port		1/4" - 3/8"	
Max. inlet pressure		1.3 MPa / 13 bar / 188 psi	
Suggested flow rate at 6.3 bar (0.63 MPa, 91 psi)	Nl/min	230	
	scfm	8	
Consumption of compressed air for regeneration at 6.3 bar	Nl/min	20	
	scfm	0.7	
Minimum temperature		2°C / 35°F	
Maximum temperature at 1MPa; 10 bar; 145 psi		50°C / 122°F	
Noise level	dB(A)	< 45	
Weight	kg	0.84	1.24
Wall fixing screws		M4 x 50	
Mounting position		In any position	Vertical
Drain		-	RMSA: drain with manual condensate discharge and automatic discharge at zero pressure
		-	SAC: automatic drain with condensate discharge. Operates by depression – requires variable air take-offs.
Filter bowl and purification bowl capacity	cm³	-	22
Fluid		Compressed air without condensate max solid particle size: 1 µm max oil residue: 0.01 mg/m³	Compressed air
Important note		The drier must always be preceded by a 5 µm filter and a purifier	

COMPONENTS

- ① Body: painted anodized aluminium
- ② Diaphragm: poliester sulfone resin
- ③ Inner tube: salt-water resistant aluminium
- ④ O-Ring seals: NBR
- ⑤ Adapter: anodized aluminium
- ⑥ Flanges: brass
- ⑦ Skillair® body: technopolymer

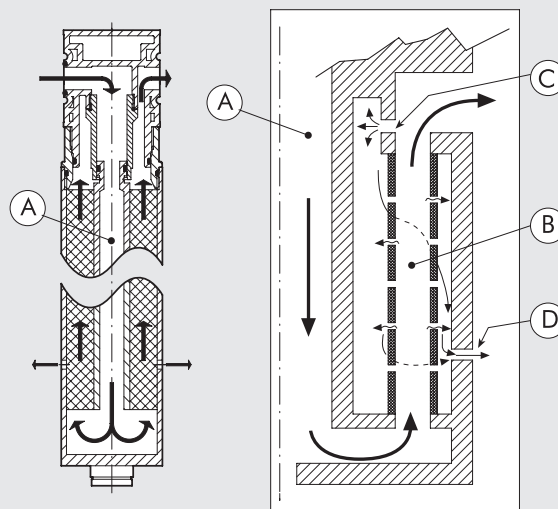


OPERATING PRINCIPLE

The drying element is comprised of cross-fibre diaphragms arranged around an inner tube. The compressed air passes through the tube (A) and flows back through the hollow diaphragms (B). At the same time, the regeneration air required for drying is tapped from the outlet port, expands as it passes through a nozzle (C), which reduces the relative humidity, and flows back along the outer side of the fibres. This allows moist compressed air to flow through the diaphragms and the dry regeneration air outside. The difference in moisture content causes the water to pass from the compressed air to the regeneration air, which is drained through holes (D) at the bottom of the drier.

ADVANTAGES

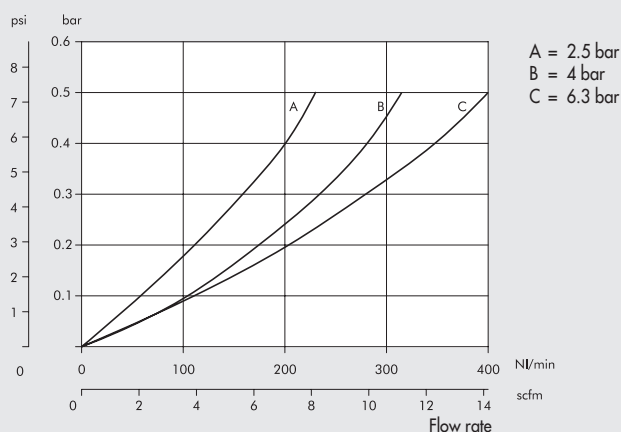
- Drying is guaranteed as all the moisture is removed
- Minimum consumption of regeneration air
- Reduce drier maintenance as none of the components are subject to wear
- Environmentally friendly drying process.



FLOW CHARTS

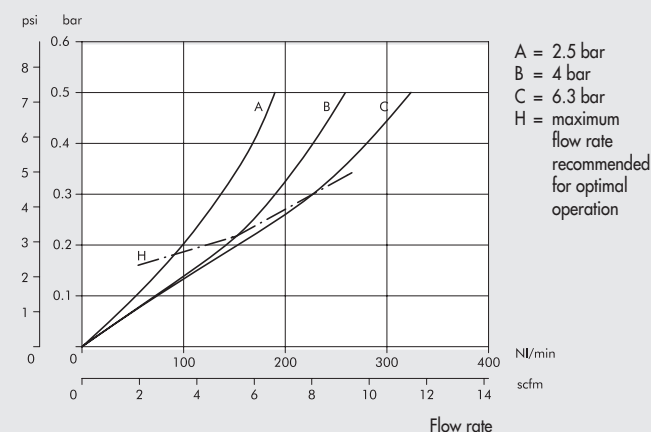
DRY 100

$$\Delta P = (P_m - P_v)$$



FIL (5 μm) + DEP + PA + DRY 100

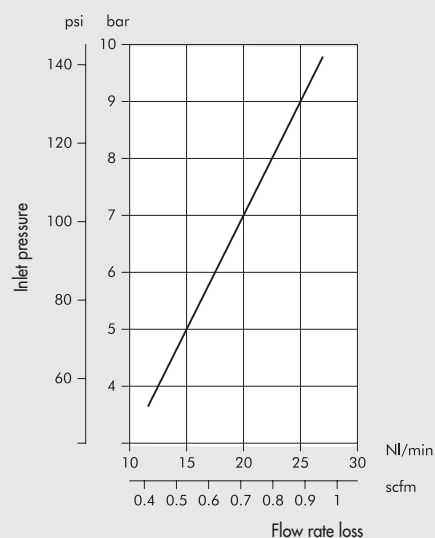
$$\Delta P = (P_m - P_v)$$



REGENERATION AIR

Thanks to the cross-fibre system, the flow rate loss is much lesser than in traditional linear-fibre systems. In the diagram on the right is indicated the drop-in air flow according to the operating pressure.

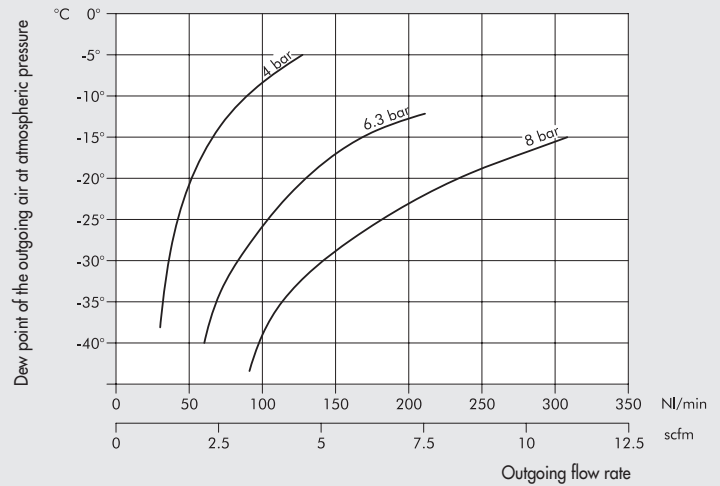
N.B.: for the best drying efficiency the highest pressure possible is required, though this implies an increase of the regeneration air.



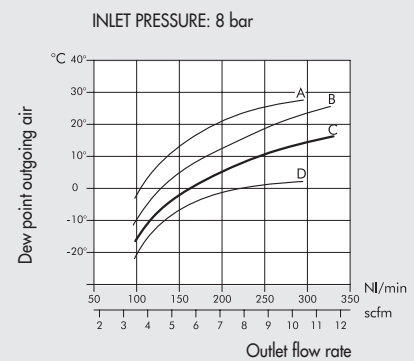
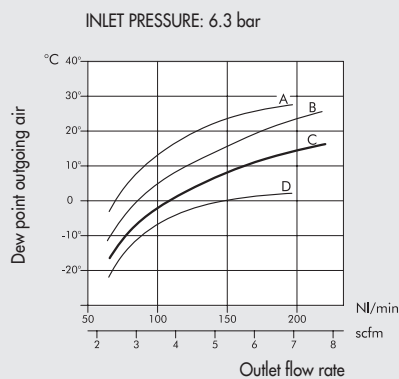
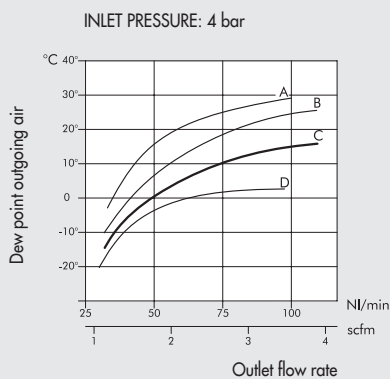
DRYING

Dew point of the outgoing air in nominal reference conditions:

- Dew point referred to atmospheric pressure
- Incoming air with dew point at 25°C (i.e. saturated at 25°C)



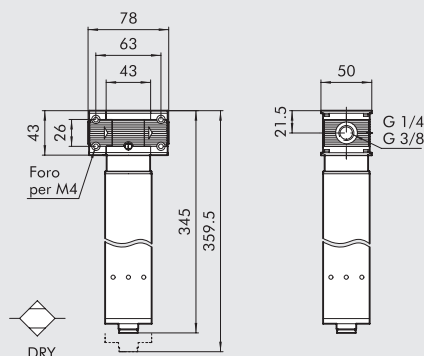
In the diagram below is indicated the dew point of the outgoing compressed air for various input air dew points, depending on the rate of flow of compressed air.



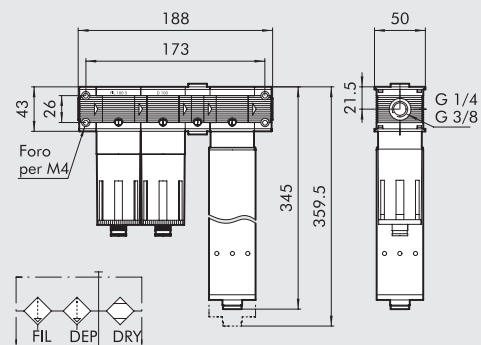
A: Incoming air with dew point at 45°C
B: Incoming air with dew point at 35°C

C: Incoming air with dew point at 25°C
D: Incoming air with dew point at 15°C

DRY 100 DIMENSIONS



FIL + DEP + PA + DRY 100 DIMENSIONS



Code	Description
3290001A	DRY 100 without end plates
3290001	DRY 100 1/4"
3390001	DRY 100 3/8"

Code	Description
3291001	F+D+PA+DRY 100 1/4" RMSA-RMSA
3291005	F+D+PA+DRY 100 1/4" SAC-RMSA
3291006	F+D+PA+DRY 100 1/4" SAC-SAC
3391001	F+D+PA+DRY 100 3/8" RMSA-RMSA
3391005	F+D+PA+DRY 100 3/8" SAC-RMSA
3391006	F+D+PA+DRY 100 3/8" SAC-SAC

Skillair® REGULATOR



Each system served by the air supply mains (e.g. actuators and general appliances) requires its own constant operating pressure. It is necessary to use a regulator to regulate the pressure within a set range by means of regulating springs, with the pressure never exceeding the mains pressure.

The new Skillair® regulator uses a rolling diaphragm which gives a much better performance than the flat version.

Advantages of this system:

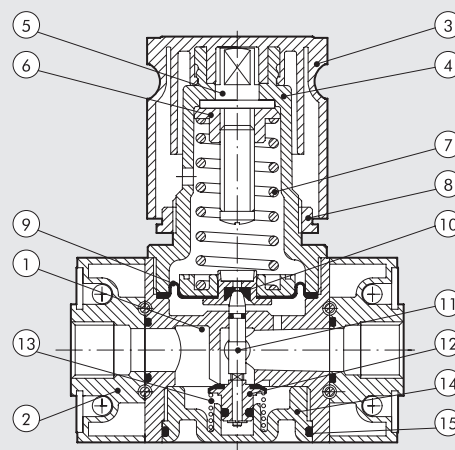
- Increased stroke, increased valve opening and hence higher flow rate.
- Decreased dynamic and inrush friction; prompter, more sensitive operation.
- Reduced working stress and hence longer life allowing the use of thinner diaphragms (0.45 mm versus 1.5 mm for a flat one) which increases regulator sensitivity and prompt action.
- Increased accuracy in maintaining the set pressure with both variable flow rates and different feed pressures.
- Downstream overpressures relieved quickly.



TECHNICAL DATA	REG 100		REG 200			REG 300			REG 400 PILOT OPERATED*			
Threaded port	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
Setting range	bar 0 to 2 - 0 to 4 - 0 to 8 - 0 to 12											
Max. input pressure	MPa 1.5 1.5 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3											
	bar 15 15 13 13 13 13 13 13 13 13 13 13											
	psi 217 217 188 188 188 188 188 188 188 188 188 188											
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1100	2500	3500	7000	18000	20000					
ΔP 0.5 bar (0.05 MPa to 7 psi)	scfm	39	88	124	363	707						
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1600	3500	7000	-	-						
ΔP 1 bar (0.1 MPa to 14 psi)	scfm	57	124	247	-	-						
Max temperature at 1 MPa; 10 bar; 145 psi	°C	50	50	50	50	50						
	°F	122	122	122	122	122						
Weight	kg	0.4	0.7	1.4	4.8	5.6						
Wall fixing screws		M4 x 50	M5 x 60	M5 x 70	M6 x 110	M6 x 110						
Pressure gauge port		1/8"	1/8"	1/8"	1/4"	1/4"						
Mounting position	In any position											
Fluid	Filtered lubricated or unlubricated compressed air. Lubrication, if used, must be continuous.											
Notes on use	The regulator pressure must always be set upwards. For increased sensitivity, use a pressure regulator with a rated pressure as close as possible to the required value.											
	Do not take air from pressure gauge ports.											
	*Supplied without a pilot regulator.											

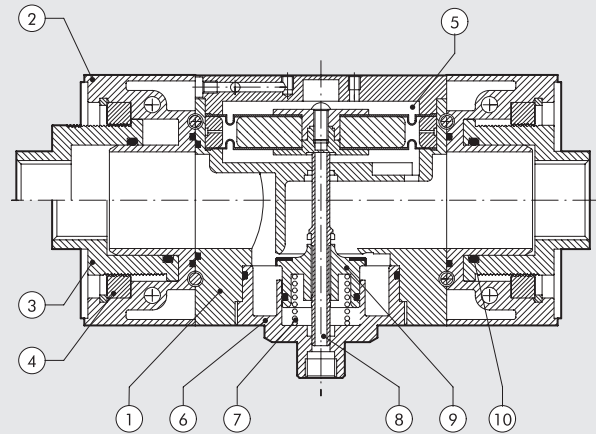
COMPONENTS REG 100 - 200 - 300

- ① Technopolymer body
- ② Zamak end plate
- ③ Technopolymer knob
- ④ Technopolymer bell
- ⑤ OT58 brass adjusting screw
- ⑥ OT58 brass scroll
- ⑦ Steel adjusting spring
- ⑧ Technopolymer ring nut
- ⑨ Rolling diaphragm
- ⑩ NBR relieving gaskets
- ⑪ OT58 brass stem
- ⑫ Valve with NBR vulcanized gasket
- ⑬ Stainless steel valve spring
- ⑭ Technopolymer plug
- ⑮ NBR gaskets



COMPONENTS REG 400 PILOT OPERATED

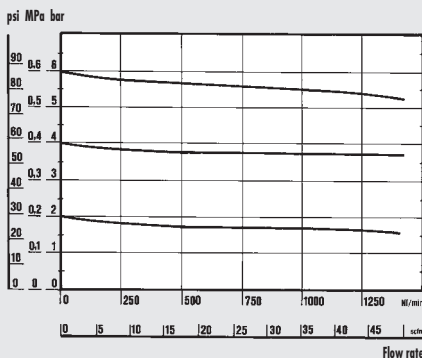
- ① Aluminium body
- ② Aluminium end plate
- ③ Anodized aluminium threaded bush, axial adjustment
- ④ OT58 brass retaining ring
- ⑤ Rolling diaphragm
- ⑥ Anodized aluminium plug
- ⑦ Stainless steel valve spring
- ⑧ OT58 brass stem with air relief hole
- ⑨ Valve with NBR vulcanized gasket
- ⑩ NBR gaskets



FLOW CHARTS

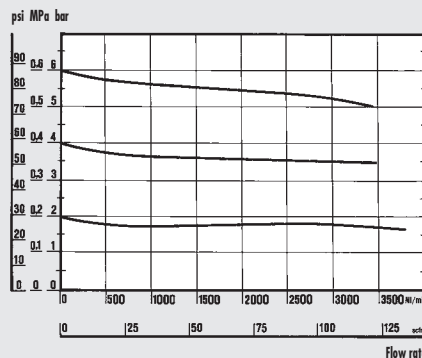
REG 100 1/4 - 3/8

Preset pressure
 $P_m = 7 \text{ bar} - 0.7 \text{ MPa} - 100 \text{ psi}$



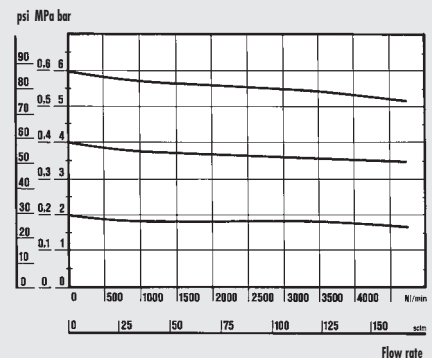
REG 200 1/4 - 3/8 - 1/2

Preset pressure
 $P_m = 7 \text{ bar} - 0.7 \text{ MPa} - 100 \text{ psi}$



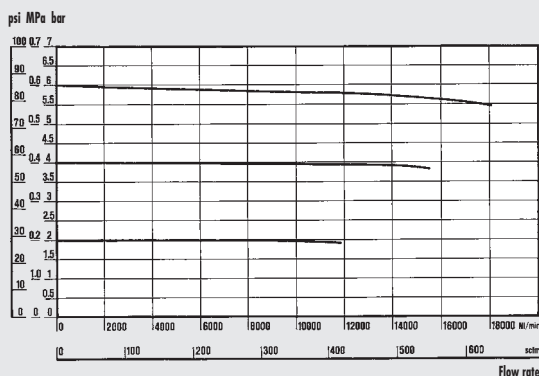
REG 300 1/2 - 3/4 - 1

Preset pressure
 $P_m = 7 \text{ bar} - 0.7 \text{ MPa} - 100 \text{ psi}$



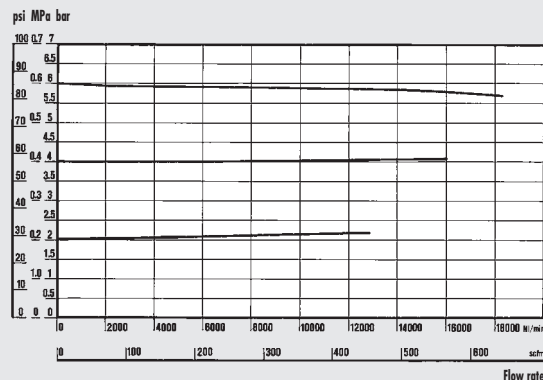
REG 400 1"

Preset pressure
 $P_m = 7 \text{ bar} - 0.7 \text{ MPa} - 100 \text{ psi}$

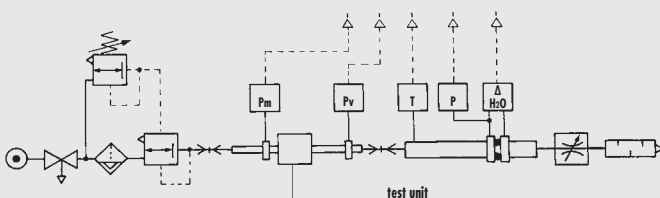


REG 400 2"

Preset pressure
 $P_m = 7 \text{ bar} - 0.7 \text{ MPa} - 100 \text{ psi}$



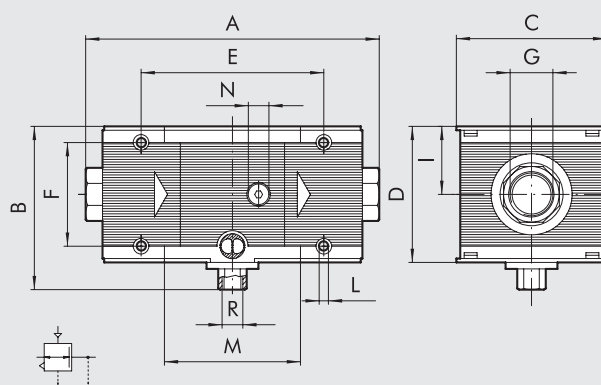
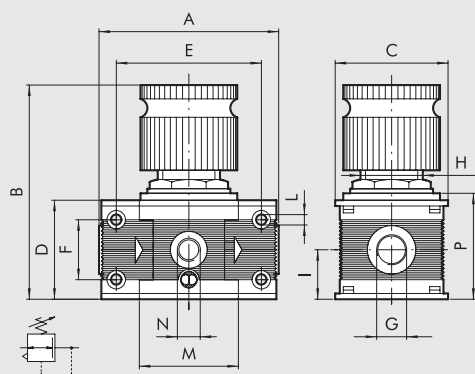
- Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.



DIMENSIONS

100 - 200 - 300

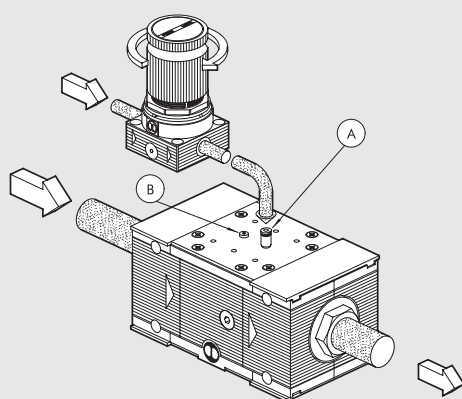
400



	REG 100		REG 200			REG 300			REG 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78		93.5			110		112	225 to 255			283 to 313
B	98		125			148			127			
C	50		63			72			118			
D	43		55			65			105			
E	63		78.5			92			141.4			
F	26		36			42			80			
H	30 x 1.5		40 x 1.5			48 x 1.5			-			
I	21.5		27.5			32.5			52.5			
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M	43		55.5			65			105.4			
N (pressure gauge port)	1/8"		1/8"			1/8"			1/4"			
P	46		58			69			-			
R (relief)	-		-			-			1/4"			

INSTRUCTIONS FOR USE REG 400

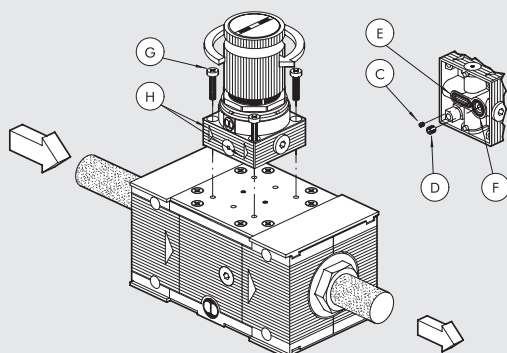
①



REMOTE PILOT

- Fit the A7 M5 plug into the threaded hole ② (close to the entrance).
- Fit the M5 fitting into the threaded hole ① as close to the entrance as possible.
- Connect the downstream circuit of the selected pilot operated regulator to the input ① (R1 fitting).
- Set the required pressure on the pilot operated regulator.

②

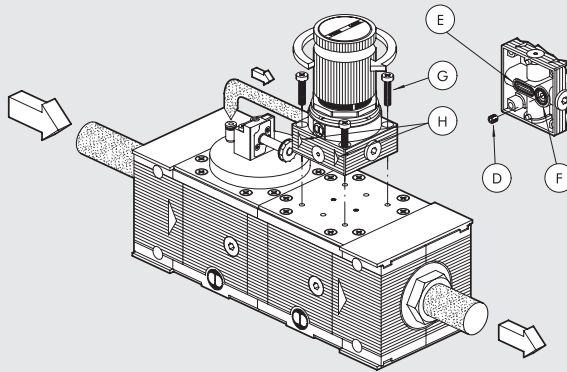


DIRECT PILOT WITH Skillair® PILOT OPERATED REGULATOR

- Remove the pins ③ and ④ under the pilot operated regulator.
- Check that the two gaskets ⑤ and ⑥ under the pilot are in place.
- Fix the pilot operated regulator to the base of the regulator using the self-threading screws ⑦. Make sure the arrows ⑧ point in the same direction as the arrows in relief under the base of the regulator.

INSTRUCTIONS FOR USE REG 400

③



PILOT REGULATOR FOLLOW-UP LINK

This is used when the regulator is mounted downstream of a V3V valve or an APR. The air can be bled from the V3V or APR valves instead of from the regulator relieving system.

- Remove only the stud pin marked with a letter ① under the pilot regulator.
- Check the two gaskets under the pilot marked ② and ③.
- Secure the pilot regulator to the regulator base with the self-tapping screws marked with a letter ④. Making sure the arrows marked ⑤ point in the same direction as the arrows in relief under the regulator base.
- Remove the A7 M5 plug from the V3V or APR plate and remount the fitting.
- Connect the pilot regulator supply to the fitting.

SYNOPTIC, SIZES AND VERSIONS

REG	100	1/4	02
ELEMENT	SIZE	THREADED PORT	SETTING RANGE
REG	100	1/4	02 = 0 to 2 bar 04 = 0 to 4 bar 08 = 0 to 8 bar 012 = 0 to 12 bar
	200	3/8	
		1/4	
		3/8	
		1/2	
300		1/2	Depending on the pilot used
		3/4	
400		1	
		1 1/4	
		1 1/2	
		2	

The pilot operated regulator is necessary for size 400. See page C3.27

ORDERING CODES

Code	Description	Code	Description	Code	Description
Skillair® 100 REGULATOR			Skillair® 200 REGULATOR	Skillair® 300 REGULATOR	
3202001A	REG 100 02 without end plates	3402001A	REG 200 02 without end plates	4402000A	REG 300 02 without end plates
3202002A	REG 100 04 without end plates	3402002A	REG 200 04 without end plates	4402001A	REG 300 04 without end plates
3202003A	REG 100 08 without end plates	3402003A	REG 200 08 without end plates	4402002A	REG 300 08 without end plates
3202004A	REG 100 012 without end plates	3402004A	REG 200 012 without end plates	4402003A	REG 300 012 without end plates
3202001	REG 100 1/4 02	3402001	REG 200 1/4 02	4402000	REG 300 1/2 02
3202002	REG 100 1/4 04	3402002	REG 200 1/4 04	4402001	REG 300 1/2 04
3202003	REG 100 1/4 08	3402003	REG 200 1/4 08	4402002	REG 300 1/2 08
3202004	REG 100 1/4 012	3402004	REG 200 1/4 012	4402003	REG 300 1/2 012
3302001	REG 100 3/8 02	3502001	REG 200 3/8 02	4502000	REG 300 3/4 02
3302002	REG 100 3/8 04	3502002	REG 200 3/8 04	4502001	REG 300 3/4 04
3302003	REG 100 3/8 08	3502003	REG 200 3/8 08	4502002	REG 300 3/4 08
3302004	REG 100 3/8 012	3502004	REG 200 3/8 012	4502003	REG 300 3/4 012
		3602001	REG 200 1/2 02	4602000	REG 300 1 02
		3602002	REG 200 1/2 04	4602001	REG 300 1 04
		3602003	REG 200 1/2 08	4602002	REG 300 1 08
		3602004	REG 200 1/2 012	4602003	REG 300 1 012
				Skillair® 400 REGULATOR	
				6102001A	REG 400 without end plates
				6102001	REG 400 1
				6202001	REG 400 1 1/4
				6302001	REG 400 1 1/2
				6402001	REG 400 2

Skillair® 100 IN-SERIES REGULATOR



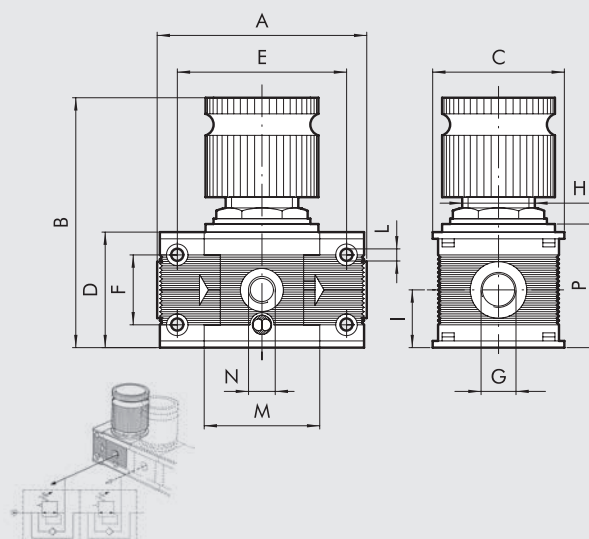
TECHNICAL DATA

Threaded inlet port		1/4" - 3/8"
Threaded user port		G 1/8"
Degree of purification	bar	0 to 2 - 0 to 4 - 0 to 8 - 0 to 12
Max. input pressure		1.5 MPa - 15 bar - 217 psi
Flow rate at 6.3 bar (0.63 MPa to 91 psi)		500 NI/min
ΔP 0.5 bar (0.05 MPa to 7 psi)		18 scfm
Flow rate at 6.3 bar (0.63 MPa to 91 psi)		950 NI/min
ΔP 1 bar (0.1 MPa to 14 psi)		34 scfm
Fluid		Filtered, lubricated or unlubricated compressed air. Lubrication, if used, must be continuous
Max temperature	°C	50
at 1 MPa; 10 bar; 145 psi	°F	122
Weight	kg	0.4
Wall fixing screws		M4x50
Mounting position		In any position
Pressure gauge port		G 1/8"
Notes on use		The regulator pressure must always be set upwards. For increased sensitivity, use a pressure regulator with a rated pressure as close as possible to the required value.



DIMENSIONS

	REG 100	REG 100
Threaded port	1/4"	3/8"
A		78
B		98
C		50
D		43
E		63
F		26
G	1/4"	3/8"
H		30 x 1.5
I		21.5
L		Hole for M4 screws
M		43
N (use)		1/8"
P		46

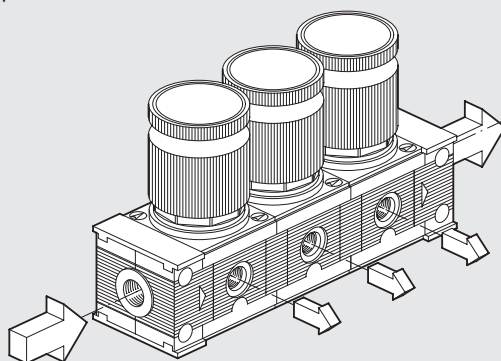


ORDERING CODES

Code	Description
100 IN-SERIES REGULATOR	
3202101A	100 IN-SERIES REG. 0-2 without end plates
3202102A	100 IN-SERIES REG. 0-4 without end plates
3202103A	100 IN-SERIES REG. 0-8 without end plates
3202104A	100 IN-SERIES REG. 0-12 without end plates
3202101	100 IN-SERIES REG. 1/4 0-2
3202102	100 IN-SERIES REG. 1/4 0-4
3202103	100 IN-SERIES REG. 1/4 0-8
3202104	100 IN-SERIES REG. 1/4 0-12
3302101	100 IN-SERIES REG. 3/8 0-2
3302102	100 IN-SERIES REG. 3/8 0-4
3302103	100 IN-SERIES REG. 3/8 0-8
3302104	100 IN-SERIES REG. 3/8 0-12

Several of these Skillair® regulators can be mounted in series, all fed by the same pressure. They can give different set pressures, each independent of the previous regulator.

Operating compressed air can be taken from the pressure gauge ports (G 1/8").



Skillair® PADLOCKABLE REGULATOR



The padlockable regulator has a pin with a hole in it that projects from the top of the knob. When the knob is in the push-lock position, the padlock can be inserted in the hole, preventing the knob from being operated. A padlock and two keys are supplied with the regulator.

The new Skillair® regulator uses a rolling diaphragm which gives a much better performance than the flat version.

Advantages of this system:

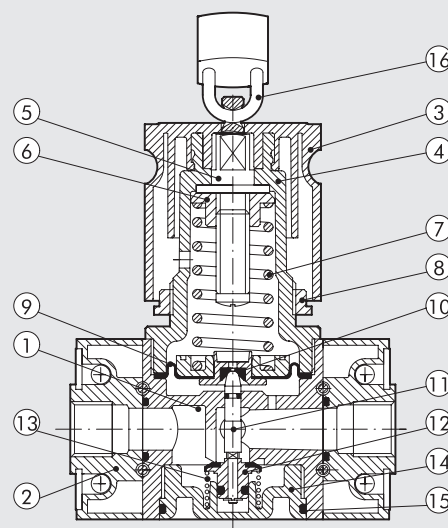
- Increased stroke, increased valve opening and hence higher flow rate.
- Decreased dynamic and inrush friction; prompter, more sensitive operation.
- Reduced working stress and hence longer life allowing the use of thinner diaphragms (0.45 mm versus 1.5 mm for a flat one) which increases regulator sensitivity and prompt action.
- Increased accuracy in maintaining the set pressure with both variable flow rates and different feed pressures.
- Downstream overpressures relieved quickly.

Refer to the regulator for technical data and flow curves.



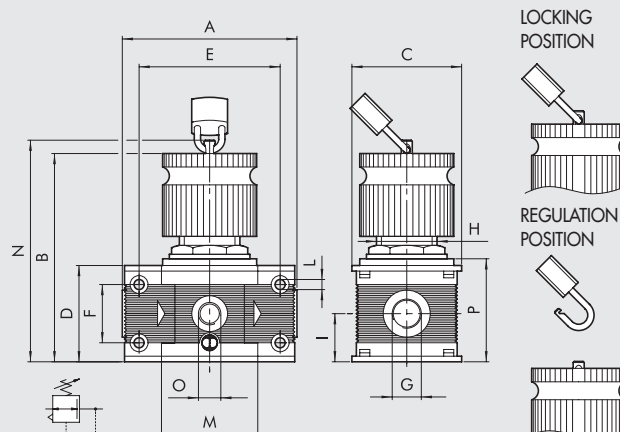
COMPONENTS

- ① Technopolymer body
- ② Zamak end plate
- ③ Technopolymer knob
- ④ Technopolymer bell
- ⑤ Nickel-plated OT58 brass adjusting screw
- ⑥ OT58 brass scroll
- ⑦ Steel adjusting spring
- ⑧ Technopolymer ring nut
- ⑨ Rolling diaphragm
- ⑩ NBR relieving gaskets
- ⑪ OT58 brass stem
- ⑫ Valve with NBR vulcanized gasket
- ⑬ Stainless steel valve spring
- ⑭ Technopolymer plug
- ⑮ NBR gaskets
- ⑯ Padlock



DIMENSIONS

	REG 100 KEY		REG 200 KEY			REG 300 KEY		
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"
A	78		93.5			110		
B	95 to 98		123 to 125			145 to 148		
C	50		63			72		
D	43		55			65		
E	63		78.5			92		
F	26		36			42		
H	30 x 1.5		40 x 1.5			48 x 1.5		
I	21.5		27.5			32.5		
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws		
M	43		55.5			65		
N	101		127			151		
O (pressure gauge port)	1/8"		1/8"			1/8"		
P	46		58			69		



SYNOPTIC, SIZES AND VERSIONS

REG ELEMENT	100 SIZE	KEY TYPE	1/4 THREADED PORT	02 SETTING RANGE
REG = Regulator	100	KEY = Padlockable	1/4	02 = 0 to 2 bar
	200		3/8	04 = 0 to 4 bar
			1/4	08 = 0 to 8 bar
			3/8	012 = 0 to 12 bar
	300		1/2	
			1/2	
			3/4	
			1	

ORDERING CODES

[illegible]

Skillair® PILOT REGULATOR



The pilot regulator is used when great accuracy is required in maintaining the set pressure under changing operating conditions.

It is ideal for use as:

- a precision regulator for flow rates < 100 NL/min.
- a pilot in general - typically for large size regulators (see REG 400).

The system's high operating accuracy and low hysteresis are determined by the virtually total lack of friction.

The presence of a slight air leak is necessary for the regulator to operate properly - it is not a malfunction. It is advisable to use filtered air.



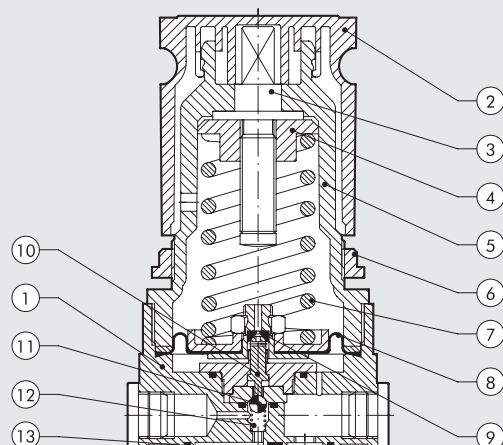
TECHNICAL DATA		PILOT REGULATOR	
Threaded port		1/4"	
Setting range	bar	0 to 2 - 0 to 4 - 0 to 8 - 0 to 12	
Max. input pressure	MPa	1.3	
	bar	13	
	psi	188	
Flow rate at 6.3 bar (0.63 MPa to 91 psi) ΔP 0.5 bar (0.05 MPa to 7 psi)		120 NL/min - 4.3 scfm	
Flow rate at 6.3 bar (0.63 MPa to 91 psi) ΔP 1 bar (0.1 MPa to 14 psi)		140 NL/min - 5 scfm	
Fluid		Filtered, lubricated or unlubricated compressed air.	
		Lubrication, if used, must be continuous.	
Max temperature at 1 MPa; 10 bar; 145 psi	°C	50	
	°F	122	
Weight	kg	0.6	
Mounting position		In any position	
Pressure gauge port		G 1/8"	
Notes on use		The regulator pressure must always be set upwards.	
		For increased sensitivity, use a pressure regulator with a rated pressure as close as possible to the required value.	
		Do not take air from the pressure gauge ports. Mount directly on REG 400.	

UNITS

Skillair® PILOT REGULATOR

COMPONENTS

- ① Aluminium body
- ② Technopolymer knob
- ③ OT58 brass adjusting screw
- ④ OT58 brass scroll
- ⑤ Technopolymer bell
- ⑥ Technopolymer ring nut
- ⑦ Steel adjusting spring
- ⑧ Rolling diaphragm
- ⑨ NBR relieving gaskets
- ⑩ OT58 brass stem
- ⑪ Stainless steel ball valve
- ⑫ Stainless steel valve spring
- ⑬ NBR gaskets

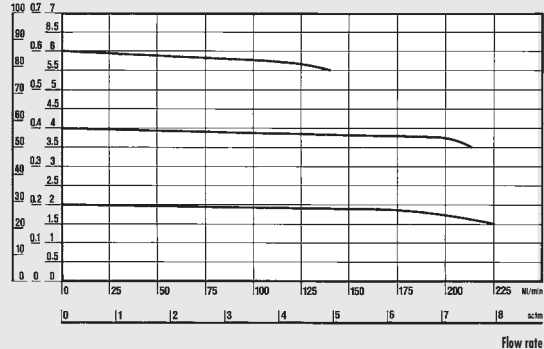


FLOW CHARTS

FLOW FEATURES REG. P 1/4"

Preset pressure
 $P_m = 7 \text{ bar} - 0.7 \text{ MPa} - 100 \text{ psi}$

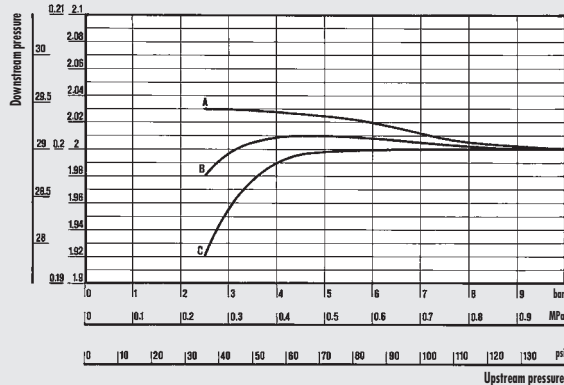
psi MPa bar



REGULATION FEATURES REG. P 1/4" *

Flow rate: A = 0 NI/min = 0 scfm
B = 25 NI/min = 0.88 scfm - C = 50 NI/min = 1.76 scfm

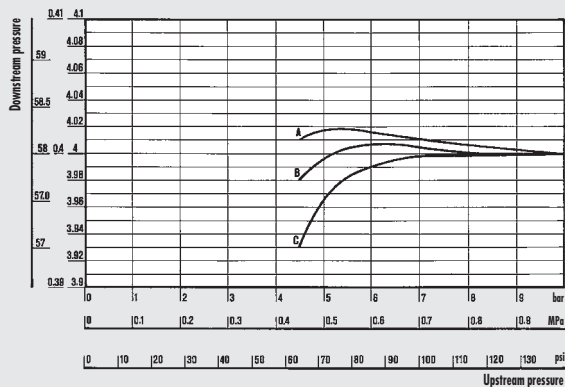
psi MPa bar



REGULATION FEATURES REG. P 1/4" *

Flow rate: A = 0 NI/min = 0 scfm
B = 25 NI/min = 0.88 scfm - C = 50 NI/min = 1.76 scfm

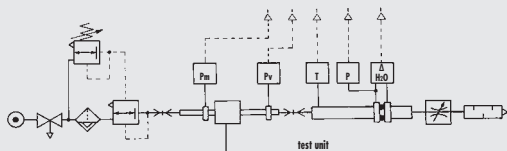
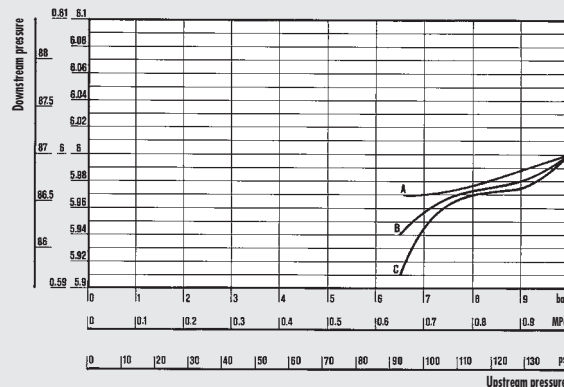
psi MPa bar



REGULATION FEATURES REG. P 1/4" *

Flow rate: A = 0 NI/min = 0 scfm
B = 25 NI/min = 0.88 scfm - C = 50 NI/min = 1.76 scfm

psi MPa bar

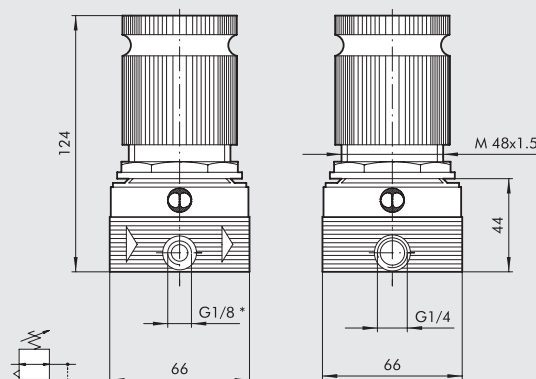


- Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.

* Pressure stability adjusted according to changes in upstream pressure.

DIMENSIONS

Code	Description
3206001	REG. P 1/4" O2
3206002	REG. P 1/4" O4
3206003	REG. P 1/4" O8
3206004	REG. P 1/4" O12



*Pressure gauge port

Skillair® PILOT PADLOCKABLE REGULATOR



The pilot regulator is used when great accuracy is required in maintaining the set pressure under changing operating conditions.

It is ideal for use as:

- a precision regulator for flow rates < 100 NI/min.
- a pilot in general - typically for large size regulators (see REG 400).

The system's high operating accuracy and low hysteresis are determined by the virtually total lack of friction. The presence of a slight air leak is necessary for the regulator to operate properly - it is not a malfunction.

It is advisable to use filtered air.

The pilot padlockable regulator has a pin with a hole in it that projects from the top of the knob. When the knob is in the push-lock position, the padlock can be inserted in the hole, preventing the knob from being operated.

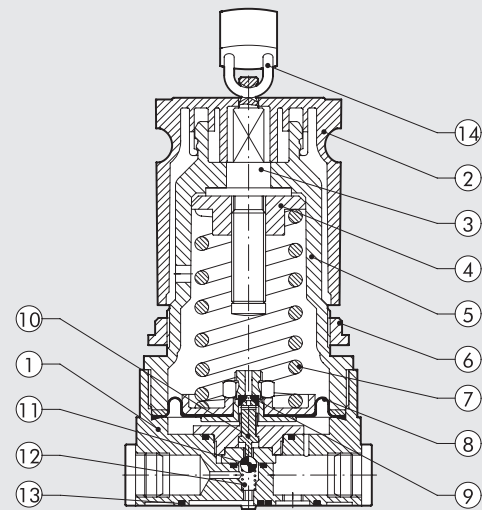
A padlock and two keys are supplied with the regulator.

Refer to the pilot regulator for technical data and flow curves.



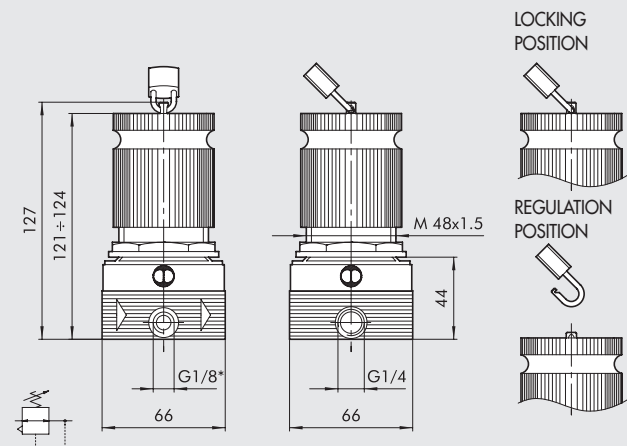
COMPONENTS

- ① Aluminium body
- ② Technopolymer knob
- ③ Nickel-plated brass OT58 adjusting screw
- ④ OT58 brass scroll
- ⑤ Technopolymer bell
- ⑥ Technopolymer ring nut
- ⑦ Steel adjusting spring
- ⑧ Rolling diaphragm
- ⑨ NBR relieving gaskets
- ⑩ OT58 brass stem
- ⑪ Stainless steel ball valve
- ⑫ Stainless steel valve spring
- ⑬ NBR gaskets
- ⑭ Padlock



DIMENSIONS

Code	Description
3208001	REG. P KEY 1/4" 02
3208002	REG. P KEY 1/4" 04
3208003	REG. P KEY 1/4" 08
3208004	REG. P KEY 1/4" 012



*Pressure gauge port

UNITS

Skillair® PILOT PADLOCKABLE REGULATOR

Skillair® 300 PILOT OPERATED REGULATOR



- Pilot-operated or servo-piloted regulator.
- Twin rolling diaphragm to ensure improved opening and hence greater flow rate.
- Low load losses
- Excellent precision in pressure setting.
- Excellent sensitivity during relieving.



TECHNICAL DATA

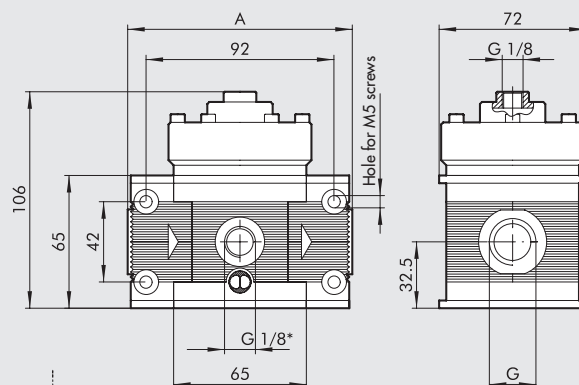
		300 PILOT OPERATED REG		
Threaded port		1/2"	3/4"	1"
Setting range		Depending on the pilot regulator		
Max. input pressure		1.3		
		bar		
		13		
Flow rate at 6.3 bar (0.63 MPa to 91 psi) ΔP 0.5 bar (0.05 MPa to 7 psi)		188		
		NL/min		
Flow rate at 6.3 bar (0.63 MPa to 91 psi) ΔP 1 bar (0.1 MPa to 14 psi)		4500		
		scfm		
Fluid		160		
		NL/min		
Max temperature at 1 MPa; 10 bar; 145 psi		7000		
		scfm		
Weight		247		
Wall fixing screws		Filtered, lubricated or unlubricated compressed air. Lubrication, if used, must be continuous.		
Mounting position		50		
Pressure gauge port		122		
Notes on use		1.3		
		M5 x 70		
		In any position		
		1/8"		
		The regulator pressure must always be set upwards.		
		Do not take air from the pressure gauge ports.		

DIMENSIONS

		REG 300		
Threaded port G		1/2"	3/4"	1"
A		110	110	112

ORDERING CODES

Code	Description
4403003A	300 pilot operated reg without end plates
4403003	300 1/2" pilot operated reg
4503003	300 3/4" pilot operated reg
4603003	300 1" pilot operated reg



*Pressure gauge port

Skillair® FILTER REGULATOR



This device combines a filter and a pressure regulator in a single unit. It has the dual function of filtering and regulating air from the compressor. As the filter regulator is made up of the same elements as the regulator and the filter, the performance is the same.

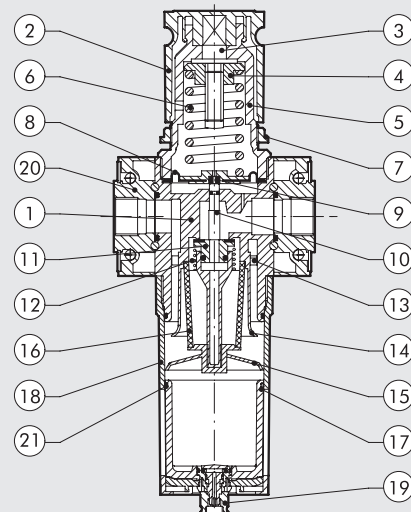
- High flow rates with low load loss.
- Special rolling diaphragm - higher flow rate, greater stability, improved sensitivity.
- Rapid relief of downstream overpressures.
- Stability of the regulated pressure as the mains pressure fluctuates.
- Maximum degree of condensate separation.
- 360° condensate level display.
- Condensate drain with manual/semi-automatic or automatic function.



TECHNICAL DATA		FR 100		FR 200			FR 300		
Threaded port		1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"
Setting range	bar	0 to 2 - 0 to 4 - 0 to 8 - 0 to 12		0 to 2 - 0 to 4 - 0 to 8 - 0 to 12			0 to 2 - 0 to 4 - 0 to 8 - 0 to 12		
Degree of filtration	µm	5 - 20 - 50		5 - 20 - 50			5 - 20 - 50		
Max. input pressure		1.5 MPa - 15 bar - 217 psi		1.3 MPa - 13 bar - 188 psi			1.3 MPa - 13 bar - 188 psi		
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1100		1600			3500		
ΔP 0.5 bar (0.05 MPa to 7psi)	scfm	39		57			125		
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1600		3000			5600		
ΔP 1 bar (0.1 MPa to 14 psi)	scfm	57		71			200		
Max temperature	°C	50		50			50		
at: 1 MPa; 10 bar; 145 psi	°F	122		122			122		
Weight	kg	0.5		1			1.8		
Wall fixing screws		M4 x 50		M5 x 60			M5 x 70		
Mounting position		Vertical		Vertical			Vertical		
Pressure gauge port		1/8"		1/8"			1/8"		
Bowl capacity	cm³	22		45			75		
Drain		RMSA - SAC		RMSA - SAC - RA			RMSA - RA		
		RMSA: drain with manual condensate discharge and automatic discharge at zero pressure							
		RA: automatic drain with condensate discharge, independent of pressure and flow rate. Version conveys the draining by inserting the pipe having internal diameter 6 mm in the lower port.							
		SAC: automatic drain with condensate discharge. Operates by depression – requires variable air take-offs.							
Fluid		Filtered, lubricated or unlubricated compressed air. Lubrication, if used, must be continuous.							
Notes on use		The regulator pressure must always be set upwards. For increased sensitivity, use a pressure regulator with a rated pressure as close as possible to the required value. Do not take air from pressure gauge ports.							
		The maximum inlet pressure for the version with RA automatic condensate drainage must not exceed 10 bar.							

COMPONENTS

- ① Technopolymer body
- ② Technopolymer knob
- ③ OT58 brass adjusting screw
- ④ OT58 brass scroll
- ⑤ Technopolymer bell
- ⑥ Steel adjusting spring
- ⑦ Technopolymer ring nut
- ⑧ Rolling diaphragm
- ⑨ NBR relieving gaskets
- ⑩ OT58 brass stem
- ⑪ Valve with NBR vulcanized gasket
- ⑫ Stainless steel valve spring
- ⑬ Technopolymer centrifuge
- ⑭ Technopolymer baffle plug
- ⑮ Technopolymer screen
- ⑯ Sintered HDPE filter cartridge
- ⑰ Clear technopolymer glass
- ⑱ Bowl: technopolymer for FR100 and FR200, metal for FR 300
- ⑲ Drain (RMSA)
- ⑳ Zamak end plate
- ㉑ NBR gaskets

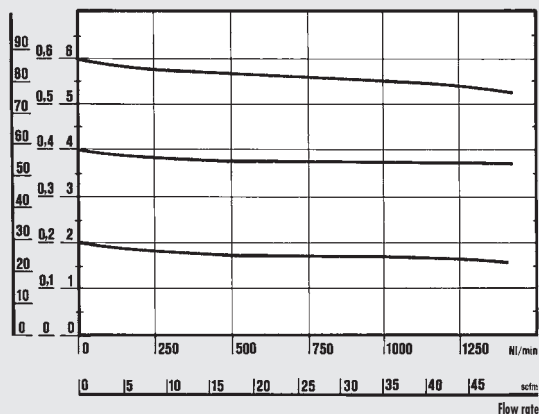


FLOW CHARTS

FR 100 1/4 - 3/8

Preset pressure
 $P_m = 7 \text{ bar} - 0.7 \text{ MPa} - 100 \text{ psi}$

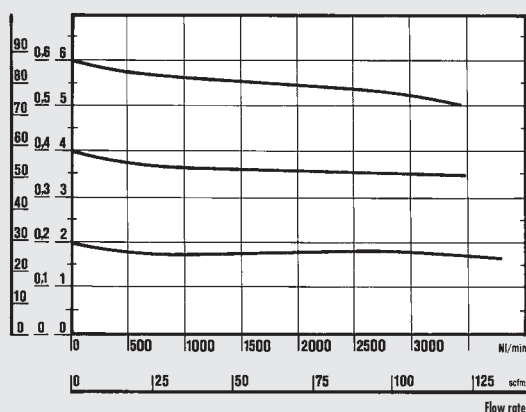
psi MPa bar



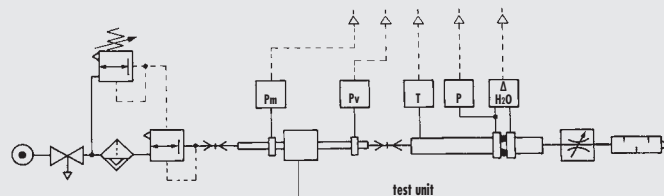
FR 200 1/4 - 3/8 - 1/2

Preset pressure
 $P_m = 7 \text{ bar} - 0.7 \text{ MPa} - 100 \text{ psi}$

psi MPa bar



**Department
of Mechanics**
Turin Polytechnic

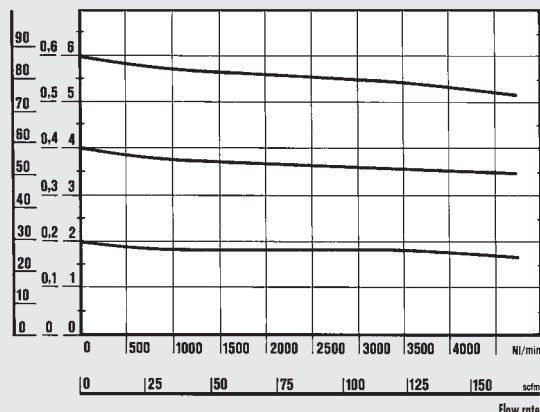


- Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.

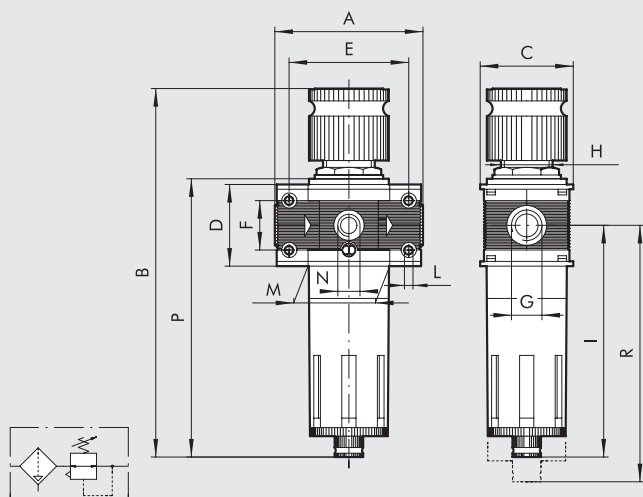
FR 300 1/2 - 3/4 - 1

Preset pressure
 $P_m = 7 \text{ bar} - 0.7 \text{ MPa} - 100 \text{ psi}$

psi MPa bar



DIMENSIONS



	FR 100		FR 200			FR 300		
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"
A	78		93.5			110		
B	RMSA	199	245			278		
		RA	249			282		
		SAC	203			282		
C	50		63			72		
D	43		55			65		
E	63		78.5			92		
F	26		36			42		
H	30 x 1.5		40 x 1.5			48 x 1.5		
I	122.5		147.5			162.5		
L	Hole for M4		Hole for M5			Hole for M5		
	screws		screws			screws		
M	43		55.5			65		
N (pressure gauge port)	1/8"		1/8"			1/8"		
P	RMSA	147	178			200		
		RA	182			204		
		SAC	151			204		
R	RMSA	137	196			215		
		RA	200			219		
		SAC	141			219		

SYNOPTIC, SIZES AND VERSIONS

FR ELEMENT	100 SIZE	1/4 THREADED PORT	5 DEGREE OF FILTRATION	02 SETTING RANGE	RMSA TYPE OF DRAIN
FR	100	1/4	5 = 5 µm	02 = 0 to 2 bar	RMSA
	200	3/8	20 = 20 µm	04 = 0 to 4 bar	SAC
		1/4	50 = 50 µm	08 = 0 to 8 bar	RMSA
		3/8		012 = 0 to 12 bar	SAC
	300	1/2			RA*
		1/2			RMSA
		3/4			RA
		1			

RMSA: drain with manual condensate discharge and automatic discharge at zero pressure.
 RA: automatic drain with condensate discharge, independent of pressure and flow rate. (for size 300 and 400).
 Version conveys the draining by inserting the pipe having internal diameter 6 mm in the lower port.
 SAC: automatic drain with condensate discharge.
Operates by depression – requires variable air take-offs.
 (for size 100 and 200)
 * For Skillair® 200 with RA, please contact our sales assistance department.

ORDERING CODES

Code	Description	Code	Description	Code	Description
Skillair® 100 FILTER REGULATOR		Skillair® 200 FILTER REGULATOR		Skillair® 300 FILTER REGULATOR	
3283007A	FR 100 5 08 RMSA without end plates	3483007A	FR 200 5 08 RMSA without end plates	4483004A	FR 300 5 08 RMSA without end plates
3283008A	FR 100 20 08 RMSA without end plates	3483008A	FR 200 20 08 RMSA without end plates	4483005A	FR 300 20 08 RMSA without end plates
3283009A	FR 100 50 08 RMSA without end plates	3483009A	FR 200 50 08 RMSA without end plates	4483006A	FR 300 50 08 RMSA without end plates
3283010A	FR 100 5 012 RMSA without end plates	3483010A	FR 200 5 012 RMSA without end plates	4483007A	FR 300 5 012 RMSA without end plates
3283011A	FR 100 20 012 RMSA without end plates	3483011A	FR 200 20 012 RMSA without end plates	4483008A	FR 300 20 012 RMSA without end plates
3283012A	FR 100 50 012 RMSA without end plates	3483012A	FR 200 50 012 RMSA without end plates	4483009A	FR 300 50 012 RMSA without end plates
3283031A	FR 100 5 08 SAC without end plates	3483031A	FR 200 5 08 SAC without end plates	4483013A	FR 300 5 08 RA without end plates
3283032A	FR 100 20 08 SAC without end plates	3483032A	FR 200 20 08 SAC without end plates	4483014A	FR 300 20 08 RA without end plates
3283033A	FR 100 50 08 SAC without end plates	3483033A	FR 200 50 08 SAC without end plates	4483015A	FR 300 50 08 RA without end plates
3283034A	FR 100 5 012 SAC without end plates	3483034A	FR 200 5 012 SAC without end plates	4483016A	FR 300 5 012 RA without end plates
3283035A	FR 100 20 012 SAC without end plates	3483035A	FR 200 20 012 SAC without end plates	4483017A	FR 300 20 012 RA without end plates
3283036A	FR 100 50 012 SAC without end plates	3483036A	FR 200 50 012 SAC without end plates	4483018A	FR 300 50 012 RA without end plates
3283007	FR 100 1/4 5 08 RMSA	3483007	FR 200 1/4 5 08 RMSA	4483004	FR 300 1/2 5 08 RMSA
3283008	FR 100 1/4 20 08 RMSA	3483008	FR 200 1/4 20 08 RMSA	4483005	FR 300 1/2 20 08 RMSA
3283009	FR 100 1/4 50 08 RMSA	3483009	FR 200 1/4 50 08 RMSA	4483006	FR 300 1/2 50 08 RMSA
3283010	FR 100 1/4 5 012 RMSA	3483010	FR 200 1/4 5 012 RMSA	4483007	FR 300 1/2 5 012 RMSA
3283011	FR 100 1/4 20 012 RMSA	3483011	FR 200 1/4 20 012 RMSA	4483008	FR 300 1/2 20 012 RMSA
3283012	FR 100 1/4 50 012 RMSA	3483012	FR 200 1/4 50 012 RMSA	4483009	FR 300 1/2 50 012 RMSA
3283031	FR 100 1/4 5 08 SAC	3483031	FR 200 1/4 5 08 SAC	4483013	FR 300 1/2 5 08 RA
3283032	FR 100 1/4 20 08 SAC	3483032	FR 200 1/4 20 08 SAC	4483014	FR 300 1/2 20 08 RA
3283033	FR 100 1/4 50 08 SAC	3483033	FR 200 1/4 50 08 SAC	4483015	FR 300 1/2 50 08 RA
3283034	FR 100 1/4 5 012 SAC	3483034	FR 200 1/4 5 012 SAC	4483016	FR 300 1/2 5 012 RA
3283035	FR 100 1/4 20 012 SAC	3483035	FR 200 1/4 20 012 SAC	4483017	FR 300 1/2 20 012 RA
3283036	FR 100 1/4 50 012 SAC	3483036	FR 200 1/4 50 012 SAC	4483018	FR 300 1/2 50 012 RA
3383007	FR 100 3/8 5 08 RMSA	3583007	FR 200 3/8 5 08 RMSA	4583004	FR 300 3/4 5 08 RMSA
3383008	FR 100 3/8 20 08 RMSA	3583008	FR 200 3/8 20 08 RMSA	4583005	FR 300 3/4 20 08 RMSA
3383009	FR 100 3/8 50 08 RMSA	3583009	FR 200 3/8 50 08 RMSA	4583006	FR 300 3/4 50 08 RMSA
3383010	FR 100 3/8 5 012 RMSA	3583010	FR 200 3/8 5 012 RMSA	4583007	FR 300 3/4 5 012 RMSA
3383011	FR 100 3/8 20 012 RMSA	3583011	FR 200 3/8 20 012 RMSA	4583008	FR 300 3/4 20 012 RMSA
3383012	FR 100 3/8 50 012 RMSA	3583012	FR 200 3/8 50 012 RMSA	4583009	FR 300 3/4 50 012 RMSA
3383031	FR 100 3/8 5 08 SAC	3583031	FR 200 3/8 5 08 SAC	4583013	FR 300 3/4 5 08 RA
3383032	FR 100 3/8 20 08 SAC	3583032	FR 200 3/8 20 08 SAC	4583014	FR 300 3/4 20 08 RA
3383033	FR 100 3/8 50 08 SAC	3583033	FR 200 3/8 50 08 SAC	4583015	FR 300 3/4 50 08 RA
3383034	FR 100 3/8 5 012 SAC	3583034	FR 200 3/8 5 012 SAC	4583016	FR 300 3/4 5 012 RA
3383035	FR 100 3/8 20 012 SAC	3583035	FR 200 3/8 20 012 SAC	4583017	FR 300 3/4 20 012 RA
3383036	FR 100 3/8 50 012 SAC	3583036	FR 200 3/8 50 012 SAC	4583018	FR 300 3/4 50 012 RA
		3683007	FR 200 1/2 5 08 RMSA	4683004	FR 300 1 5 08 RMSA
		3683008	FR 200 1/2 20 08 RMSA	4683005	FR 300 1 20 08 RMSA
		3683009	FR 200 1/2 50 08 RMSA	4683006	FR 300 1 50 08 RMSA
		3683010	FR 200 1/2 5 012 RMSA	4683007	FR 300 1 5 012 RMSA
		3683011	FR 200 1/2 20 012 RMSA	4683008	FR 300 1 20 012 RMSA
		3683012	FR 200 1/2 50 012 RMSA	4683009	FR 300 1 50 012 RMSA
		3683031	FR 200 1/2 5 08 SAC	4683013	FR 300 1 5 08 RA
		3683032	FR 200 1/2 20 08 SAC	4683014	FR 300 1 20 08 RA
		3683033	FR 200 1/2 50 08 SAC	4683015	FR 300 1 50 08 RA
		3683034	FR 200 1/2 5 012 SAC	4683016	FR 300 1 5 012 RA
		3683035	FR 200 1/2 20 012 SAC	4683017	FR 300 1 20 012 RA
		3683036	FR 200 1/2 50 012 SAC	4683018	FR 300 1 50 012 RA

Skillair® LUBRICATOR



The pneumatic lubricator is the simplest way of properly lubricating actuators connected to a circuit.

As air flows from the mains through the lubricator, it encounters the diaphragm which obstructs the flow and the air is forced through the Venturi tube.

The inside of the Venturi tube is connected to the inspection dome, which connects with the bowl via a tube with a regulating needle in between.

The drop in pressure caused by the Venturi tube sucks up air through the dome, the tube and lastly into the bowl containing oil.

The quantity of oil controlled by the regulating needle then flows back from the bowl to the circuit.

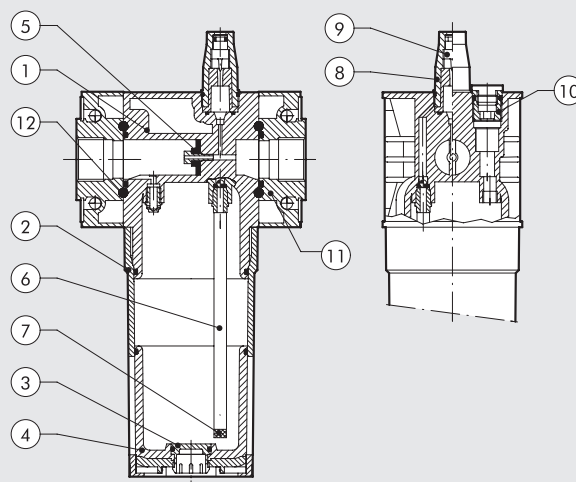


TECHNICAL DATA

TECHNICAL DATA		LUB 100		LUB 200			LUB 300			LUB 400			
Threaded port		1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
Type of lubrication		Mist		Mist			Mist			Mist			
Bowl capacity		cm ³	50	95			160			800			
Versions		Standard - CD		Standard - CD			Standard - CD - ML CD			Standard - CD - ML CD			
Max. inlet pressure		Mpa	1.5	1.3			1.3			1.3		1.3	
		bar	15	13			13			13		13	
		psi	217	188			188			188		188	
Flow rate at 6.3 bar (0.63 MPa to 91psi)		Nl/min	1100	2200			3500			18000		21000	
ΔP 0.5 bar (0.05 MPa to 7 psi)		scfm	39	71			125			640		750	
Flow rate at 6.3 bar (0.63 MPa to 91 psi)		Nl/min	1500	3700			5500			-		-	
ΔP 1 bar (0.1 MPa to 14 psi)		scfm	53	131			196			-		-	
Max temperature at: 1 MPa; 10 bar; 145 psi		°C	50	50			50			50		50	
		°F	122	122			122			122		122	
Weight		Kg	0.4	0.7			1.4			4.9		5.7	
Wall fixing screws		M4 x 50		M5 x 60			M5 x 70			M6 x 110		M6 x 110	
Mounting position		Vertical											
Fluid		Filtered compressed air											
Recommended oils		ISO and UNI FD22 (Energol HPL to Spinesso to Mobil DTE to Tellus Oil).											
Notes on use		Install the lubricator as close as possible to the point of use. Fill the lubricator bowl with oil before pressurizing the system.											
		Do not use cleaning oils, brake fluid oils or solvents in general.											
		For the best lubrication results, set the drip rate to one drop per 300-600 Nl.											

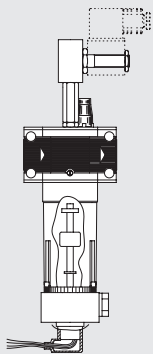
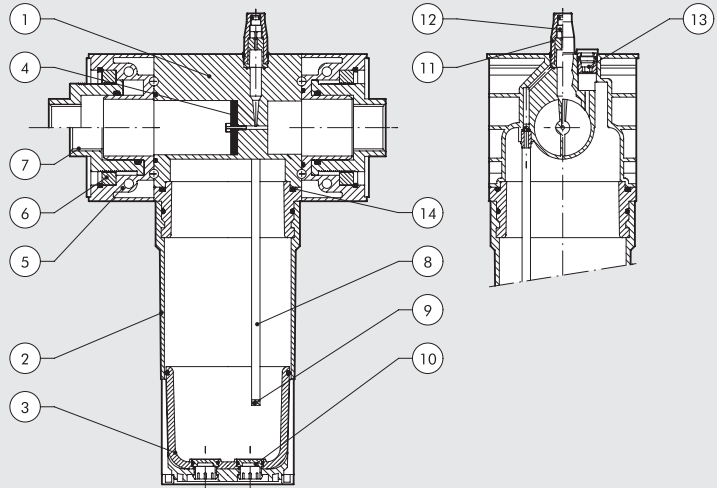
COMPONENTS LUB 100 - LUB 200 - LUB 300

- ① Technopolymer body
- ② Bowl: technopolymer for LUB 100 and 200, metal for LUB 300
- ③ Technopolymer plug
- ④ Clear technopolymer glass
- ⑤ NBR Venturi tube diaphragm
- ⑥ Rilsan® oil suction tube
- ⑦ Filter
- ⑧ Clear technopolymer inspection dome
- ⑨ OT58 brass oil flow regulating needle
- ⑩ OT58 brass oil filling plug
- ⑪ Zamak end plate
- ⑫ NBR gaskets



COMPONENTS LUB 400

- ① Aluminium body
- ② Aluminium bowl
- ③ Clear technopolymer glass
- ④ NBR Venturi tube diaphragm
- ⑤ Aluminium end plate
- ⑥ OT58 brass retaining ring
- ⑦ OT48 brass threaded bush with axial adjustment
- ⑧ Rilsan® oil suction pipe
- ⑨ Filter
- ⑩ Technopolymer plug
- ⑪ Clear technopolymer inspection dome
- ⑫ OT58 brass oil flow regulating needle
- ⑬ OT58 brass oil filling plug
- ⑭ NBR gaskets



DEPRESSION FILLING WITH MINIMUM LEVEL (ML CD AUTOMATIC)

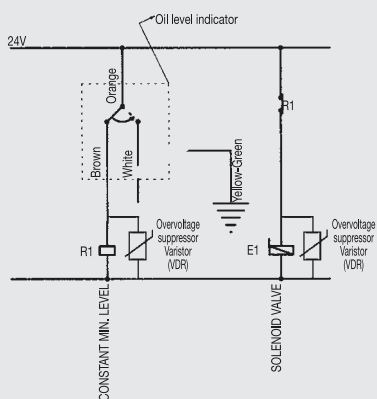
Available in sizes 300 and 400, this lubricator is controlled by a solenoid valve (2/2 NC minimum bore 3) situated on the lubricator body.

It reduces pressure inside the bowl allow it to be filled with oil taken from a tank at ambient pressure, which can be located in a lower position than the lubricator (max. difference in height 2 m).

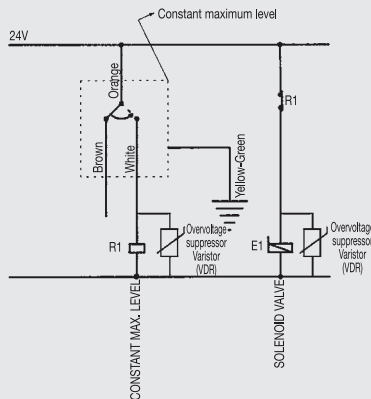
The electric indicator inside the bowl sends an electric signal used to activate the valve. When the oil reaches the maximum level, another signal disactivates the valve. In this case, the lubricator system operates with the oil level between minimum and maximum. If it is necessary to keep the oil level in the bowl constant, only one of the two signals can be used. Pressure range 3-10 bar. Connect the oil tank to the G1/4 fitting on the bowl.

N.B.: for coils and connectors see Skillair accessories.

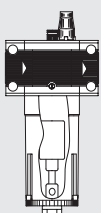
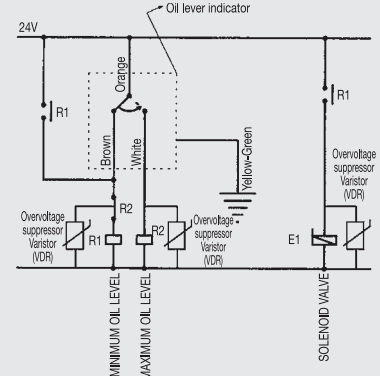
Constant minimum level



Constant maximum level



Oil level between maximum and minimum



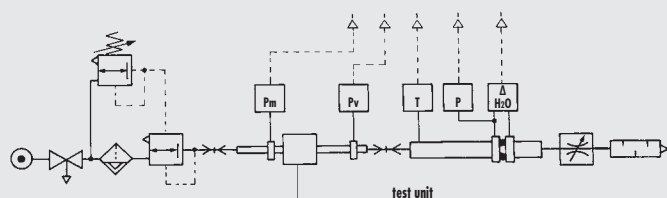
FILLING BY DEPRESSION (CD MANUAL)

Available in all sizes. It is operated by means of a button on the lubricator body. The pressure inside the bowl drops to allow it to be filled with oil taken from a tank at ambient pressure, which can be located in a lower position than the lubricator (max. difference in height 2 m). Oil filling stops when the level of oil raises the float and shuts off a specific valve.

Important – The SK4 lubricator is filled with oil by hand. Filling must stop when the oil level is visible through the spy-hole in the bowl release lever. Lubrication is discontinued during filling.

Connect the oil tank to the G1/4 fitting below the bowl.

FLOW CHARTS

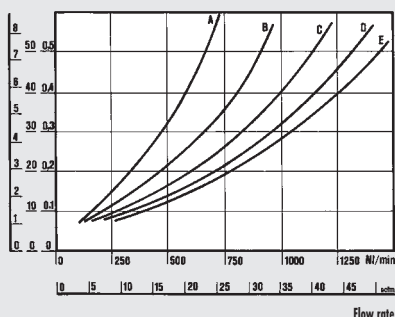


• Flow tests carried out at the Department of Mechanics, Turin Polytechnic, using the computerized test bench following CETOP RP50R recommendations (ISO DIS 6358-2-approved) with ISO 5167 diaphragm gauge.

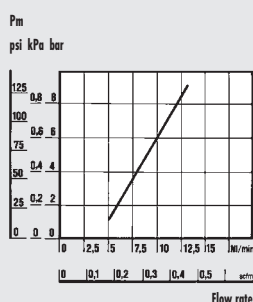
- (A) = 2 bar - 0.2 MPa - 29 psi (D) = 8 bar - 0.8 MPa - 116 psi
(B) = 4 bar - 0.4 MPa - 58 psi (E) = 10 bar - 1 MPa - 145 psi
(C) = 6 bar - 0.6 MPa - 87 psi

LUB 100 1/4 - 3/8

$\Delta P = (P_m - P_v)$
psi kPa bar

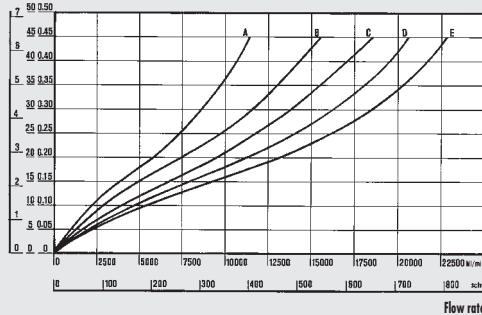


MINIMUM OPERATING FLOW CHART



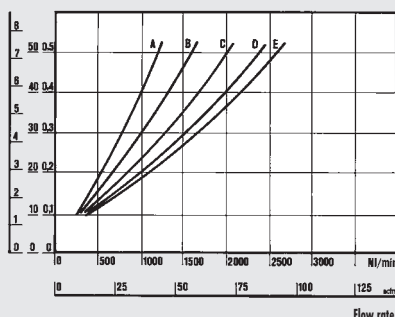
LUB 400 1"

$\Delta P = (P_m - P_v)$
psi kPa bar

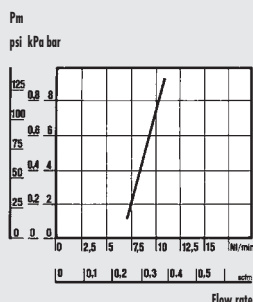


LUB 200 1/4 - 3/8 - 1/2

$\Delta P = (P_m - P_v)$
psi kPa bar

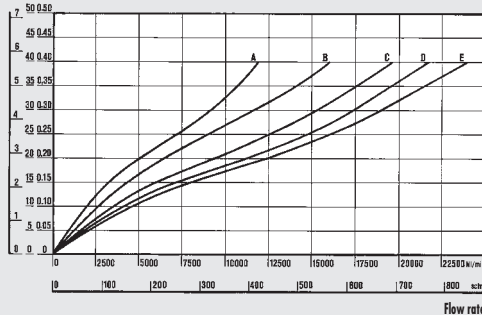


MINIMUM OPERATING FLOW CHART



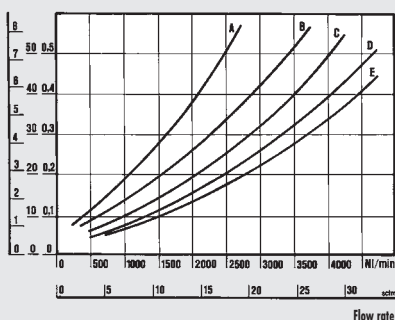
LUB 400 2"

$\Delta P = (P_m - P_v)$
psi kPa bar

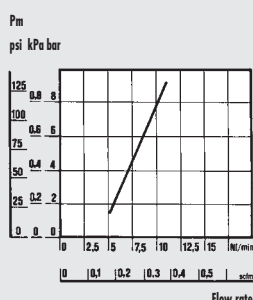


LUB 300 1/2 - 3/4 - 1

$\Delta P = (P_m - P_v)$
psi kPa bar

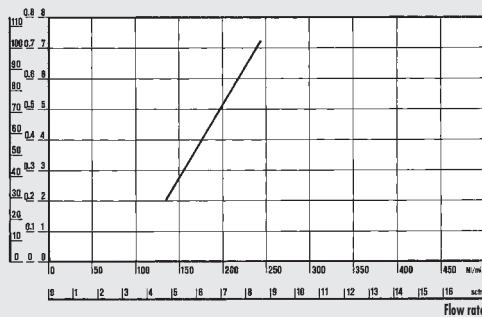


MINIMUM OPERATING FLOW CHART



MINIMUM OPERATING FLOW CHART LUB 400 1" AND 2"

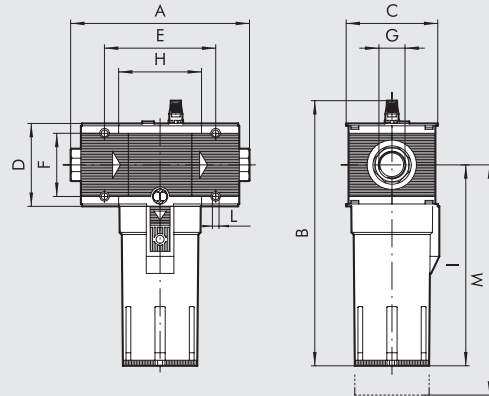
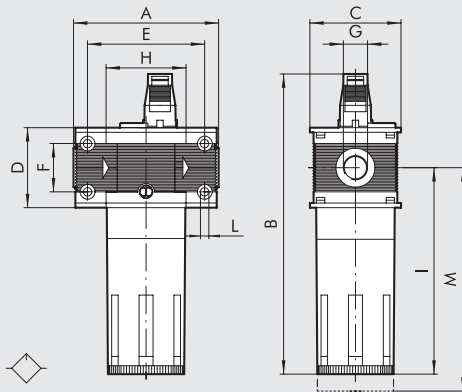
PRESSURE
psi kPa bar



DIMENSIONS

100 - 200 - 300

400



	LUB 100		LUB 200			LUB 300			LUB 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78		93.5			110			225 to 255			
B	162		193			214			338			
C	50		63			72			118			
D	43		55			65			105			
E	63		78.5			92			141.4			
F	26		36			42			80			
H	43		55.5			65			105.4			
I	112		137.5			153			256			
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M	130		150			160			285			

SYNOPTIC, SIZES AND VERSIONS

LUB ELEMENT	100 SIZE	1/4 THREADED PORT	- TYPE OF OIL FILLING
LUB	100	1/4	- = STD
	200	3/8	ML-CD = AUTOMATIC
		1/4	CD = MANUAL
		3/8	
	300	1/2	
		1/2	
		3/4	
	400	1	
		1	
		1 1/4	
		1 1/2	
		2	

STD: Standard version filled with oil by removing the bowl or through the top cap. Requires circuit relieving.
ML CD: Depression filling with minimum level and valve
CD MANUAL: Filling by depression.

ORDERING CODES

Code	Description	Code	Description	Code	Description
Skillair® 100 LUBRICATOR		Skillair® 300 LUBRICATOR		Skillair® 400 LUBRICATOR	
3281001A	LUB 100 without end plates	4481001A	LUB 300 without end plates	6181001A	LUB 400 without end plates
3281005A	LUB 100 CD manual without end plates	4481005A	LUB 300 CD manual without end plates	6181004A	LUB 400 CD manual without end plates
3281001	LUB 100 1/4	4481006A	LUB 300 ML-CD automatic without end plates	6181006A	LUB 400 ML-CD automatic without end plates
3281005	LUB 100 1/4 CD manual	4481001	LUB 300 1/2	6181001	LUB 400 1
3381001	LUB 100 3/8	4481005	LUB 300 1/2 CD manual	6181004	LUB 400 1 CD manual
3381005	LUB 100 3/8 CD manual	4481006	LUB 300 1/2 ML-CD automatic	6181006	LUB 400 1 ML-CD automatic
Skillair® 200 LUBRICATOR		4581001	LUB 300 3/4	6281001	LUB 400 1 1/4
3481001A	LUB 200 without end plates	4581005	LUB 300 3/4 CD manual	6281004	LUB 400 1 1/4 CD manual
3481005A	LUB 200 CD manual without end plates	4581006	LUB 300 3/4 ML-CD automatic	6281006	LUB 400 1 1/4 ML-CD automatic
3481001	LUB 200 1/4	4681001	LUB 300 1	6381001	LUB 400 1 1/2
3481005	LUB 200 1/4 CD manual	4681005	LUB 300 1 CD manual	6381004	LUB 400 1 1/2 CD manual
3581001	LUB 200 3/8	4681006	LUB 300 1 ML-CD automatic	6381006	LUB 400 1 1/2 ML-CD automatic
3581005	LUB 200 3/8 CD manual			6481001	LUB 400 2
3681001	LUB 200 1/2			6481004	LUB 400 2 CD manual
3681005	LUB 200 1/2 CD manual			6481006	LUB 400 2 ML-CD automatic

Skillair® SHUT-OFF VALVE



The job of this valve is to make the circuit independent from the air supply. It is basically a three-way valve. In the closed position, it cuts off the air supply and discharges the downstream circuit at the same time, which means it is particularly useful during servicing operations. The hand-operated version can be padlocked to lock the knob in a closed position so that it can only be opened by someone with the right key. An interlocked version is available for low pressure operation.

N.B.: With size 400, when the V3V is mounted upstream of the regulator, the pilot regulator must be piloted at a pressure taken upstream of the V3V, otherwise when the system is relieved, most of the air downstream will be relieved by the regulator and not the V3V relief port. For connecting instruction see page C3.23

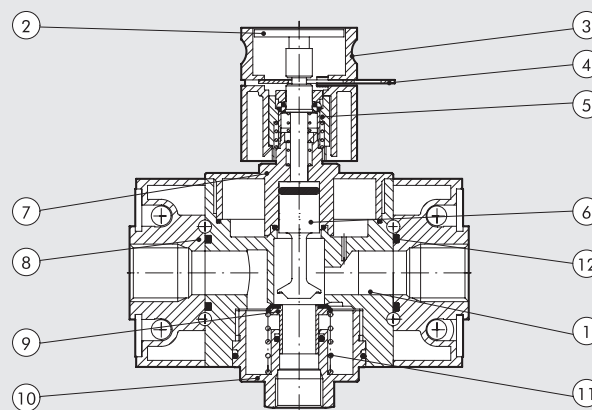


TECHNICAL DATA

TECHNICAL DATA		V3V 100		V3V 200			V3V 300			V3V 400			
Threaded port		1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1"1/4	1"1/2	2"
Min. inlet pressure for solenoid version **	MPa	0.3		0.3			0.2			0.3			0.3
	bar	3		3			2			3			3
	psi	43.5		43.5			29			43.5			43.5
Max. input pressure*	MPa	1.5		1.3			1.3			1.3			1.3
	bar	15		13			13			13			13
	psi	217		188			188			188			188
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1300		2400			3200			13000			14000
ΔP 0.5 bar (0.05 MPa to 7 psi)	scfm	46		85			113			460			494
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1650		3000			4700			-			-
ΔP 1 bar (0.1 MPa to 14 psi)	scfm	58		106			166			-			-
Max temperature	°C	50		50			50			50			50
	°F	122		122			122			122			122
Weight	kg	~ 0.5		~ 0.8			~ 1.2			4.8			5.6
Wall fixing screws		M4 x 50		M5 x 60			M5 x 70			M6 x 110			M6 x 110
Type of control		Manual - Pneumatic - Solenoid									Manual - Pneumatic - Solenoid		
		Solenoid pilot-assisted									Solenoid pilot-assisted - Key-operated		
Mounting position		In any position.											
Fluid		Filtered, lubricated or unlubricated compressed air. Lubrication, if used, must be continuous.											
Note		* 1 MPa - 10 bar - 145 psi for solenoid version											
		** 0.01 MPa – 0.1 bar – 1.45 psi for manual, pneumatic and pilot-assisted versions with controls min. 0.3 MPa 3 bar 43.5 psi.											

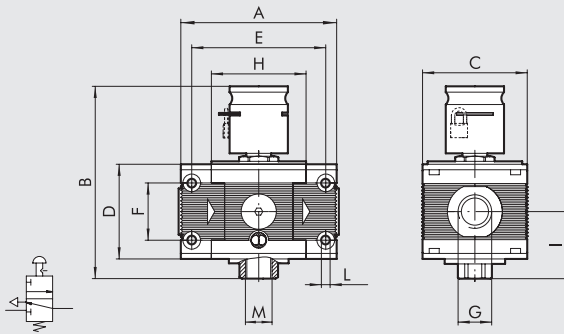
COMPONENTS

- ① Technopolymer body
- ② Operating button
- ③ Technopolymer knob
- ④ Stainless steel safety lamination
- ⑤ Locking unit
- ⑥ OT58 brass piston rod
- ⑦ OT58 brass top plug
- ⑧ Zamak end plate
- ⑨ Valve with vulcanized NBR gasket
- ⑩ OT58 brass bottom plug
- ⑪ Stainless steel valve spring
- ⑫ NBR gaskets

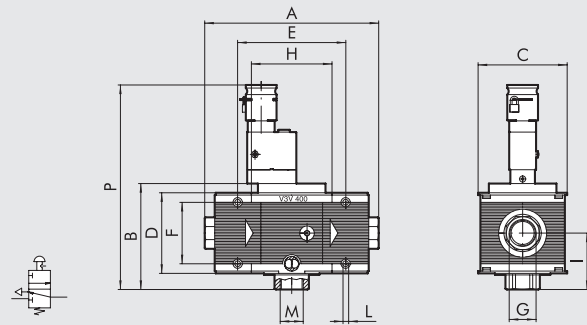


DIMENSIONS OF V3V MANUAL VERSION

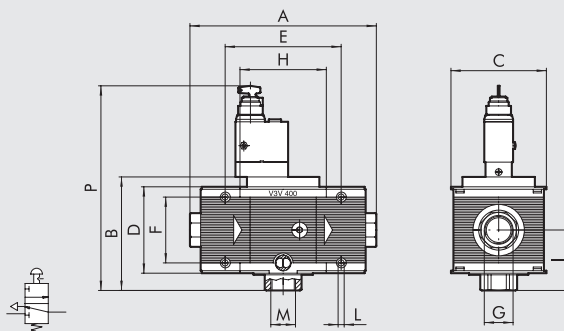
100 - 200 - 300 LOCKABLE



400 LOCKABLE



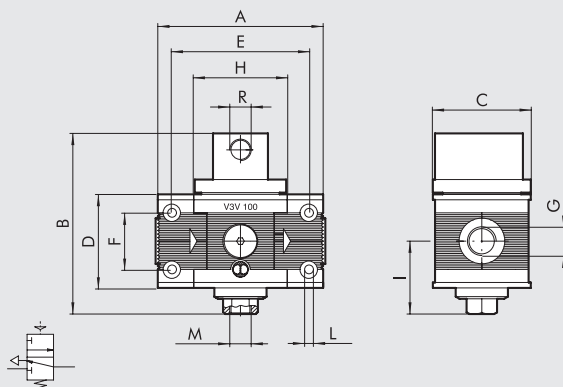
400 KEY-OPERATED



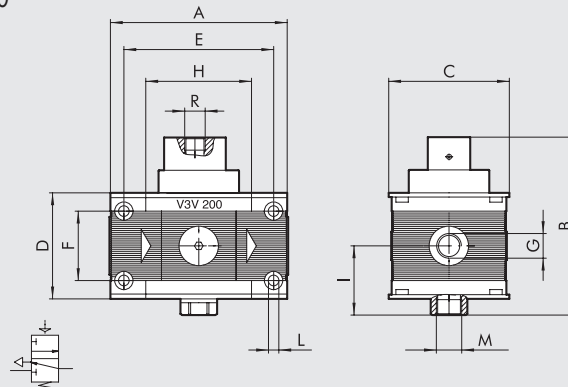
	V3V 100		V3V 200			V3V 300			V3V 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78			93.5		110		112	225 to 255			283 to 313
B	106			119			132		137			
C	50			63			72		118			
D	43			55			65		105			
E	63			78.5			92		141.4			
F	26			36			42		80			
H	43			55.5			65		105.4			
I	33.5			40			46.5		72.5			
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M (relief)	1/8"		1/4"			3/8"			1"			
P manual	-			-			-		266			
key-operated	-			-			-		249			

DIMENSIONS OF V3V PNEUMATIC VERSION

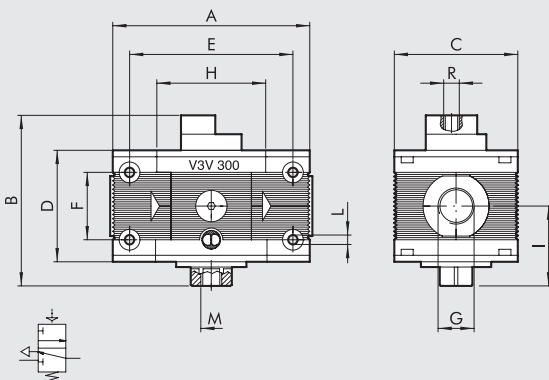
100



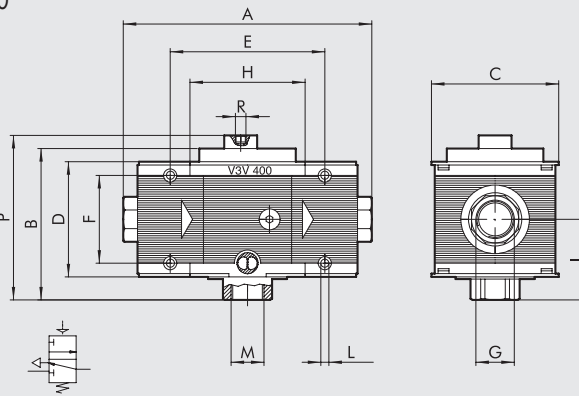
200



300



400



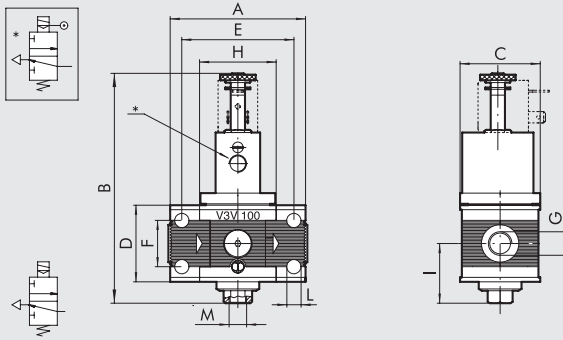
UNITS

Skillair® SHUT-OFF VALVE

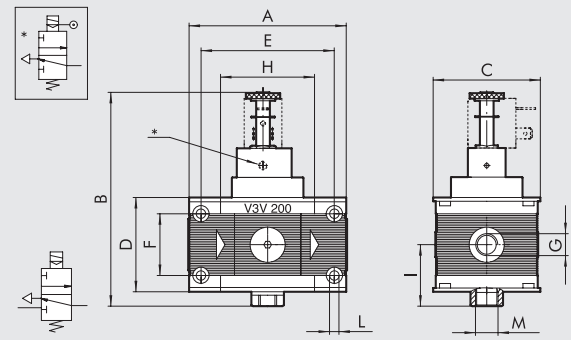
	V3V 100		V3V 200			V3V 300			V3V 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78		93.5			110		112	225 to 255			
B	83		96			106			137			
C	50		63			72			118			
D	43		55			65			105			
E	63		78.5			92			141.4			
F	26		36			42			80			
H	43		55.5			65			105.4			
I	33.5		40			46.5			72.5			
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M (relief)	1/8"		1/4"			3/8"			1"			
R (pilot)	1/8"		1/8"			1/8"			1/8"			
P	-		-			-			150			

DIMENSIONS OF V3V SOLENOID/SOLENOID PILOT-ASSISTED VALVE

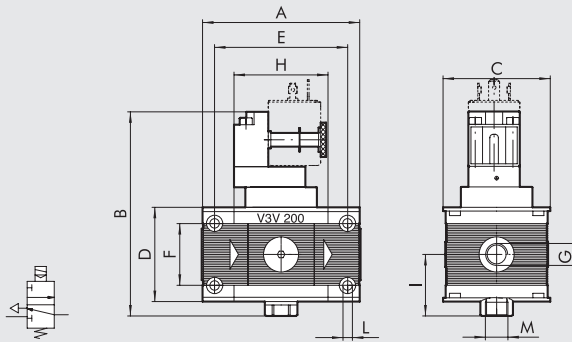
100 SOLENOID/SOLENOID PILOT-ASSISTED VALVE



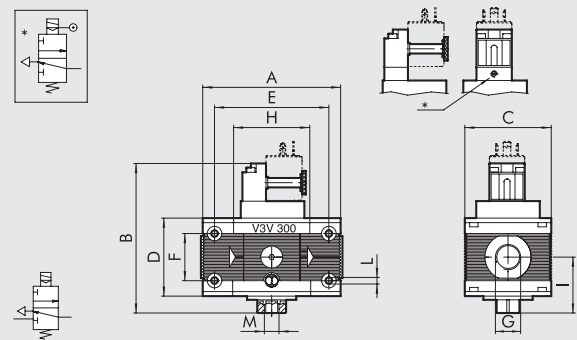
200 SOLENOID/SOLENOID PILOT-ASSISTED VALVE



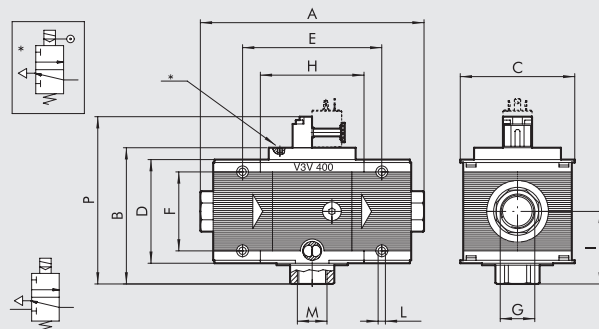
200 CNOMO



300 CNOMO SOLENOID/CNOMO SOLENOID PILOT-ASSISTED VALVE



400 CNOMO SOLENOID/CNOMO SOLENOID PILOT-ASSISTED VALVE



	V3V 100		V3V 200			V3V 300			V3V 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78		93.5			110		112	225 to 255			283 to 313
B Solenoid	128		129			152			-			
Solenoid pilot-ass.	129		129			-			-			
CNOMO control	-		123			125			137			
CNOMO pilot-ass.	-		-			138			137			
C	50		63			72			118			
D	43		55			65			105			
E	63		78.5			92			141.4			
F	26		36			42			80			
H	43		55.5			65			105.4			
I	33.5		40			46.5			72.5			
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M (relief)	1/8"		1/4"			3/8"			1"			
* (pilot)	1/8"		M5			M5			M5			
P	-		-			-			169			

SYNOPTIC, SIZES AND VERSIONS

V3V ELEMENT	100 SIZE	1/4 THREADED PORT	MANUAL TYPE OF COMMAND
V3V	100	1/4	Manual (lockable)
		3/8	
	200	1/4	Pneumatic
		3/8	
		1/2	Solenoid pilot assisted
	300	1/2	
		3/4	
		1	Solenoid
	400	1	
		1 1/4	Key-operated (400)
	1 1/2		
	2		

ORDERING CODES

[illegible]

The 2/2 progressive valve comes in two versions, with solenoid or pneumatic actuation.

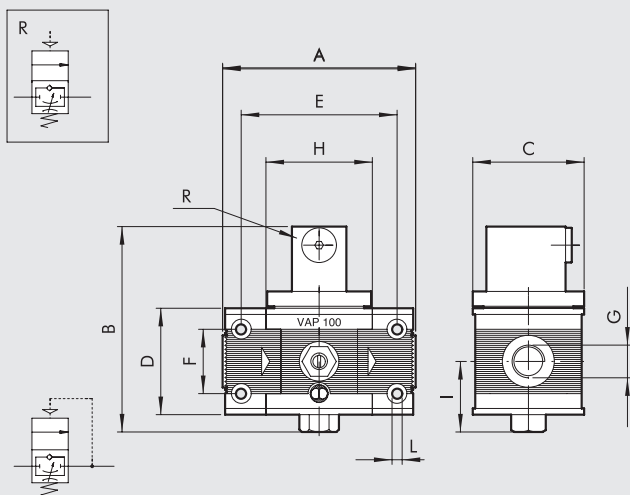
STD progressive start valve: a differential balanced valve automatically opens the air port fully when the downstream pressure is about 50% of the upstream pressure.

Progressive start valve with pneumatic or solenoid actuation: without a pilot, the upstream air flows downstream through the regulation needle.

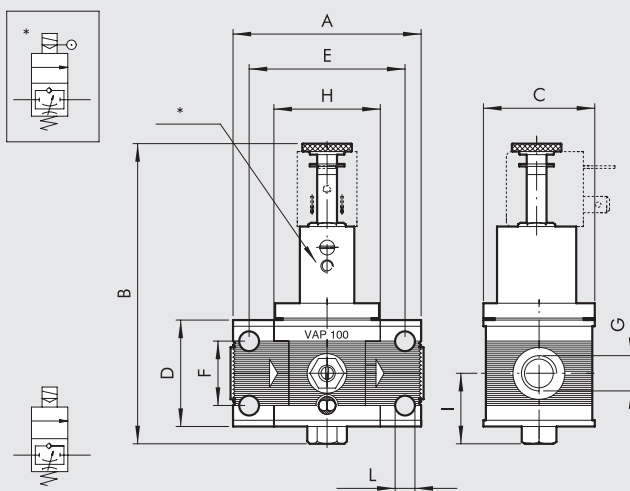
When an external or pneumatic solenoid signal is generated, the valve opens the main port to create full flow. It does not relieve the downstream circuit.

[illegible]

DIMENSIONS OF VAP 100 STD/PNEUMATIC VALVE

[illegible]

DIMENSIONS OF VAP 100 SOLENOID/SOLENOID PILOT-ASSISTED VALVE

[illegible]

ORDERING CODES

Code	Description
3271000A	VAP 100 without end plates
3271500A	VAP 100 pneumatic without end plates
3271600A	VAP 100 solenoid without end plates
3271700A	VAP 100 solenoid pilot-assisted without end plates
3271000	VAP 100 1/4
3271500	VAP 100 1/4 pneumatic
3271600	VAP 100 1/4 solenoid
3271700	VAP 100 1/4 solenoid pilot-assisted
3371000	VAP 100 3/8
3371500	VAP 100 3/8 pneumatic
3371600	VAP 100 3/8 solenoid
3371700	VAP 100 3/8 solenoid pilot-assisted

NOTES

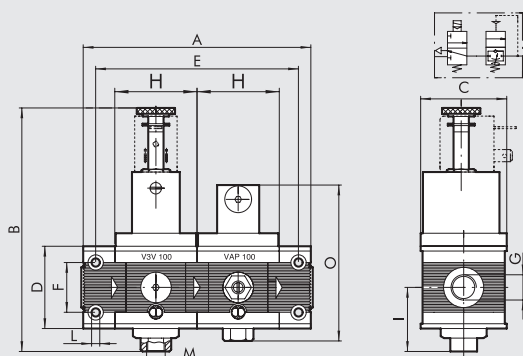
The job of the progressive starter is to feed air into the circuit gradually with controlled flow. It comes in two versions with solenoid or pneumatic actuation. Both control signals cause the valve to open, which allows the air controlled by the flow regulator to flow slowly towards the downstream circuit. In the APR, when the pressure in the downstream circuit reaches 50%-60% of the upstream pressure, the valve opens the main inlet duct connecting. The time elapsing between starting and opening the valve can be adjusted via the built-in flow regulator. If it is necessary to relieve the downstream circuit quickly, merely operate the control valve which cuts off air flow in the pipe. This closes the valve and starts relieving the downstream circuit. The progressive starter acts both as an actuator positioner, which eliminates the risk of sudden kickback, and as a valve.

N.B. With size 400, when the APR is mounted upstream of the regulator, the pilot regulator must be piloted at a pressure taken upstream of the APR, otherwise when the system is relieved, most of the air downstream will be relieved by the regulator and not the APR relief port.
For connecting instruction see page **C3.23**

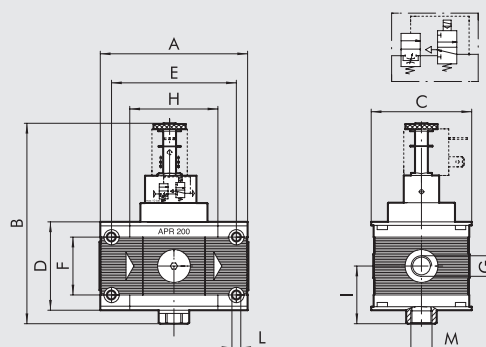
[illegible]

DIMENSIONS APR SOLENOID

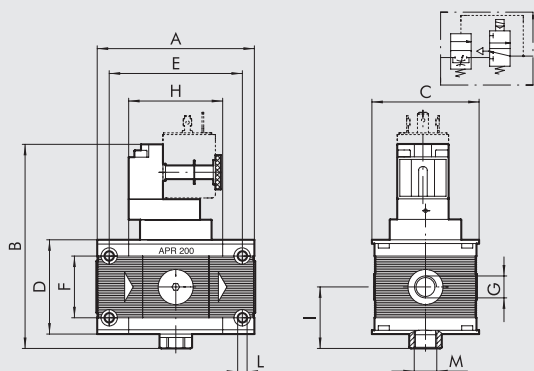
APR 100 SOLENOID



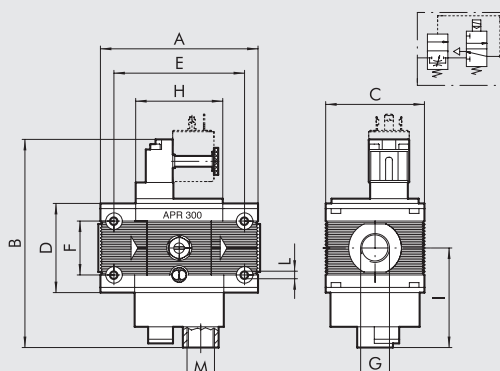
APR 200 SOLENOID



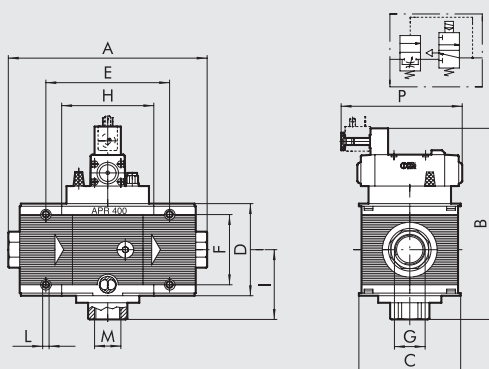
APR 200 CNOMO SOLENOID



APR 300 CNOMO SOLENOID



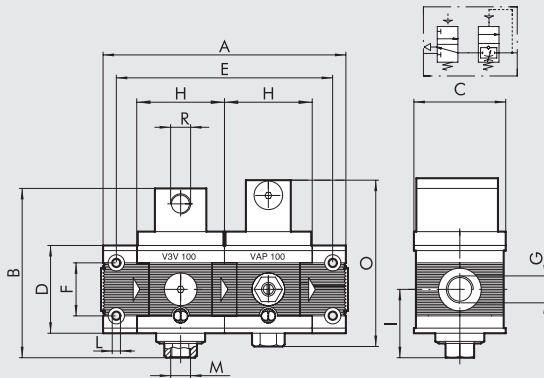
APR 400 SOLENOID



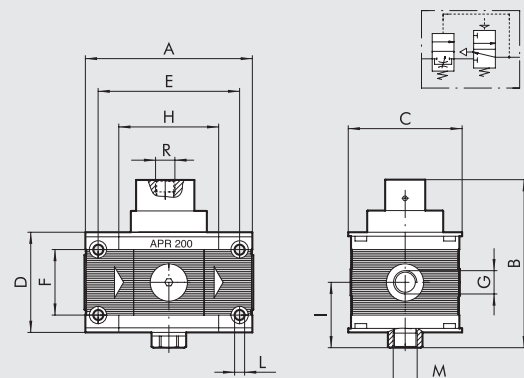
	APR 100 ELPN		APR 200 ELPN			APR 200 ELPN CNOMO			APR 300 ELPN CNOMO			APR 400 ELPN			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	121		93.5			93.5			110		112	225 to 255			283 to 313
B	128		125			120			152			218			
C	50		63			63			72			118			
D	43		55			55			65			105			
E	106		78.5			78.5			92			141.4			
F	26		36			36			42			80			
H	43		55.5			55.5			65			105.4			
I	34.5		36			36			74			80			
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M (relief)	1/8"		1/4"			1/4"			1/2"			1"			
O	83.5		-			-			-			-			
P	-		-			-			-			138			

DIMENSIONS APR PNEUMATIC

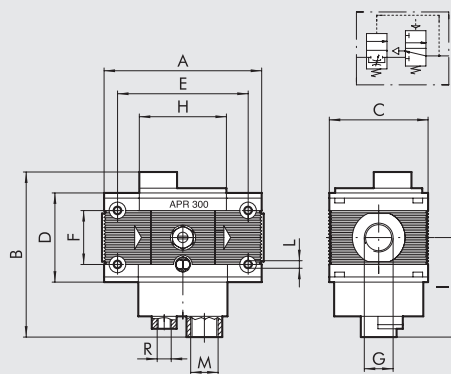
APR 100 PNEUMATIC



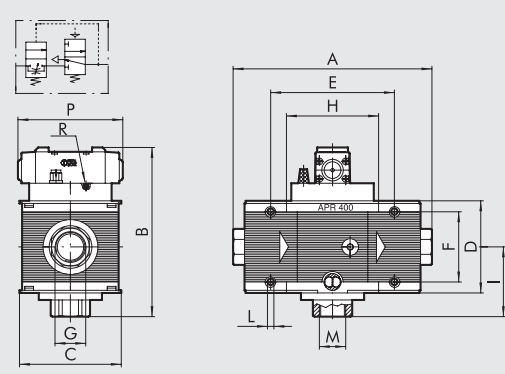
APR 200 PNEUMATIC



APR 300 PNEUMATIC



APR 400 PNEUMATIC



	APR 100 PN		APR 200 PN			APR 300 PN			APR 400 PN			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	121			93.5		110		112		225 to 255		283 to 313
B	83			92			122			193		
C	50			63			72			118		
D	43			55			65			105		
E	106			78.5			92			141.4		
F	26			36			42			80		
H	43			55.5			65			105.4		
I	34.5			36			74			80		
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			
M (relief)	1/8"			1/4"			1/2"			1"		
R (pilot)	1/8"			1/8"			1/4"			M5		
P	-			-			-			119		

SYNOPTIC, SIZES AND VERSIONS

APR ELEMENT	100 SIZE	1/4 THREADED PORT	PNEUMATIC TYPE OF CONTROL
APR	100	1/4	Pneumatic Solenoid
		3/8	
	200	1/4	
		3/8	
		1/2	
	300	1/2	
		3/4	
		1	
	400	1	
		1 1/4	
	1 1/2		
	2		

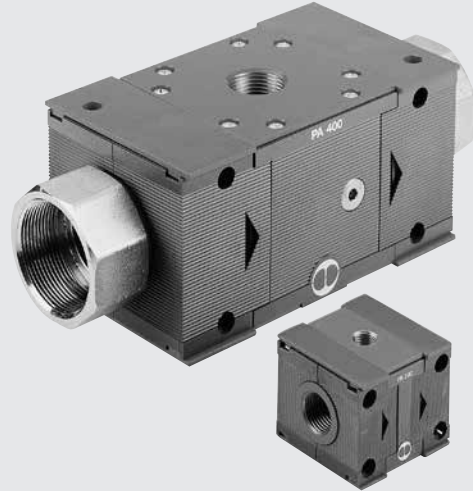
ORDERING CODES

[illegible]

Skillair® AIR TAKE-OFF



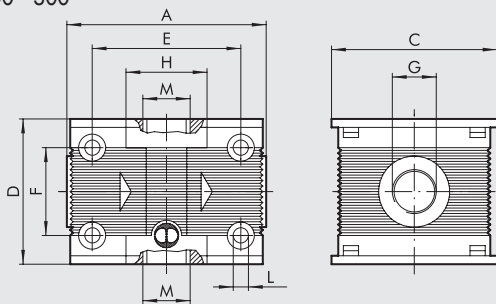
The air take-off takes air from the Skillair® FRL unit irrespective of the assembly position. It is necessary when air needs to be taken from the FRL unit at any stage of the treatment (normal, filtered and regulated, lubricated, etc.). If used separately from the FRL unit, which is infinitely modular, it acts as a distributor allowing air take-off through the threaded ports.



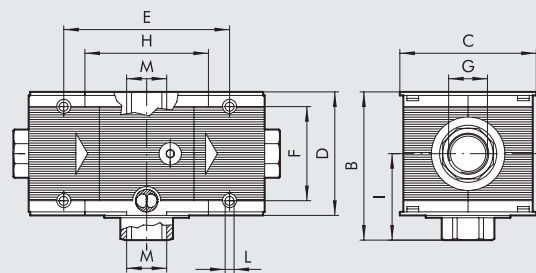
TECHNICAL DATA		PA 100		PA 200			PA 300			PA 400			
Threaded port		1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
Max. working temperature	°C	50		50			50			50			
at: 1 MPa; 10 bar; 145 psi	°F	122		122			122			122			
Max. operating pressure	MPa	1.5		1.3			1.3			1.3			
	bar	15		13			13			13			
	psi	217		188			188			188			
Wall fixing screws		M4 x 50		M5 x 60			M5 x 70			M6 x 110			
Threaded port		G 1/4		G 1/4			G 3/8			G 1			
Weight	kg	0.3		0.5			0.8			4.3		5.1	

DIMENSIONS AND ORDERING CODES

100 - 200 - 300



400



	PA 100		PA 200			PA 300			PA 400				Code	Description
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"	9200402A	PA 100 without end plates
A	59		63			117			225 to 255		283 to 313		9200402	PA 100 1/4
B	-		-			-			120				9300401	PA 100 3/8
C	50		63			72			118				9300402A	PA 200 without end plates
D	43		55			65			105				9300404	PA 200 1/2
E	44		48			59			141.4				9300402	PA 200 1/4
F	26		36			42			80				9300403	PA 200 3/8
H	24		25			32			105.4				9400402A	PA 300 without end plates
I	-		-			-			67.5				9500402	PA 300 1
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws				9400402	PA 300 1/2
M	1/4"		1/4"			3/8"			1"				9500401	PA 300 3/4
													9700401A	PA 400 without end plates
													9700401	PA 400 1
													9700403	PA 400 1 1/2
													9700402	PA 400 1 1/4
													9700404	PA 400 2

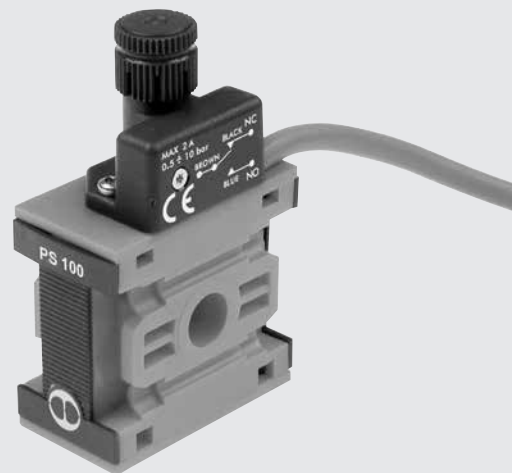
Skillair® PRESSURE SWITCHES



Skillair® pressure switches feature a high degree of miniaturisation and a modern attractive design. As they are extremely modular, the Skillair® series can be installed facing up or down.

They come ready assembled with a 2-metre cable or an M8 connector with a 300-mm cable.

The contact is the switching type, which means it can be normally open or normally closed. It can be regulated via a knurled push-lock handle. On the side opposite the regulation handle is a threaded air inlet port that can be used by removing the threaded plug.

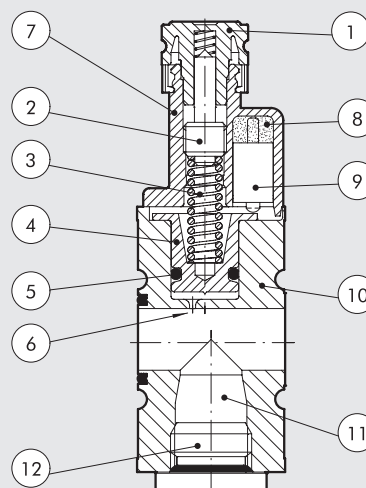


TECHNICAL DATA

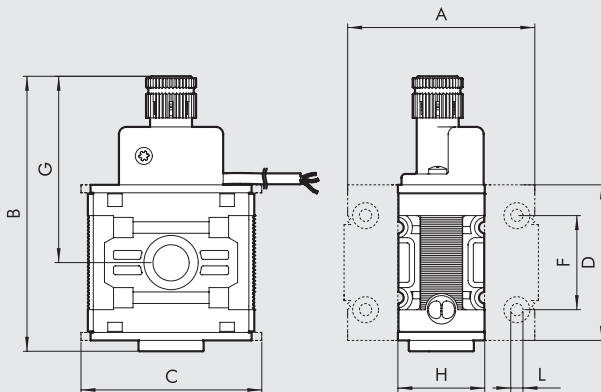
		PS 100	PS 200	PS 300
Adjustable pressure interval	bar		0.5 to 10	
Hysteresis (not adjustable)	bar		from 0.4 to 0.8 (See diagram)	
Maximum pressure	bar	15	13	13
	MPa	1.5	1.3	1.3
	psi	217	188	188
Operating temperature range at: 1 MPa; 10 bar; 145 psi	°C		-10 to 50	
	°F		14 to 122	
Lower threaded port		1/4"	1/4"	3/8"
Maximum current	A		2	
Maximum voltage	V		250	
Outside diameter of cable	mm		4.9	
Number of wires and cross section			3 x 0.5 mm ²	
Contacts			Normally-Open (NO) and Normally-Closed (NC)	
Protection			IP65	
Number of switchings			5 x 10 ⁶	
Fluid			Filtered lubricated or unlubricated compressed air. Lubrication, if used, must be continuous.	
Mounting position			In any position.	
Weight	kg	0.160	0.185	0.250

COMPONENTS

- ① Technopolymer adjusting push-lock handle
- ② Brass adjusting screw
- ③ Steel piston spring
- ④ Brass piston
- ⑤ NBR gasket
- ⑥ Choke to reduce peaks in pressure
- ⑦ Technopolymer pressure switch body
- ⑧ Resin finish for IP65
- ⑨ Electrical contact
- ⑩ Technopolymer body
- ⑪ Supplementary air inlet port
- ⑫ A7 plug

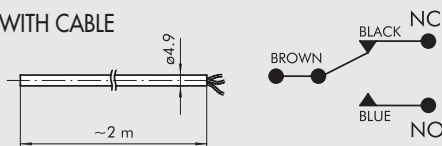


DIMENSIONS

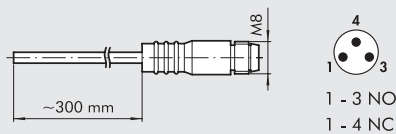
[illegible]

WIRING DIAGRAM

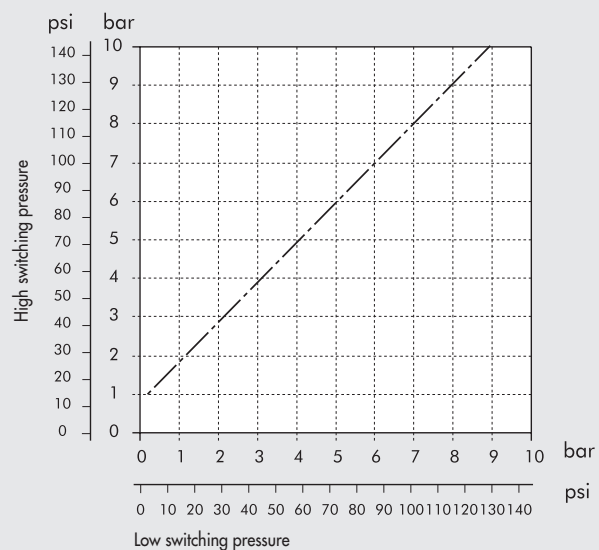
VERSION WITH CABLE



VERSION WITH M8 CONNECTOR



HYSTERESIS GRAPH



ORDERING CODES

Code	Description
Skillair® 100 PRESSURE SWITCHES	
3240000A	PS 100 2A NO/NC 2 m cable without end plates
3240001A	PS 100 2A NO/NC M8 connector without end plates

Skillair® 200 PRESSURE SWITCHES

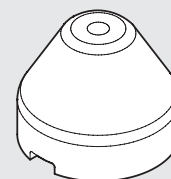
3440000A	PS 200 2A NO/NC 2 m cable without end plates
3440001A	PS 200 2A NO/NC M8 connector without end plates

Skillair® 300 PRESSURE SWITCHES

4440000A	PS 300 2A NO/NC 2 m cable without end plates
4440001A	PS 300 2A NO/NC M8 connector without end plates

ACCESSORIES

SECURITY KNOB



Code	Description
9200703	Acc. security knob

NOTE: Pull outwards to remove the knob from the pressure switch on the unit. Insert the security knob and regulate the pressure switch. Then press the handle firmly to lock it in position. If the pressure switch needs to be reset, remove the security knob by forcing it laterally with a screwdriver.

Skillair® SUB-BASE AND ADAPTER BASE

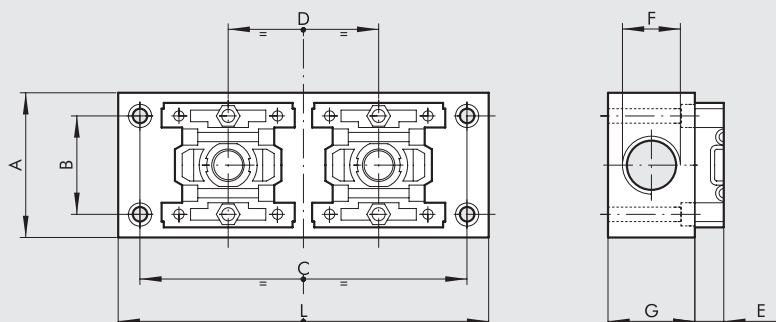


The adapter base is used to adapt the Skillair® FRL system to various assemblies without affecting modularity or servicing.
If you use the universal adapter base plus the intermediate plate, you can assemble several elements of different sizes.

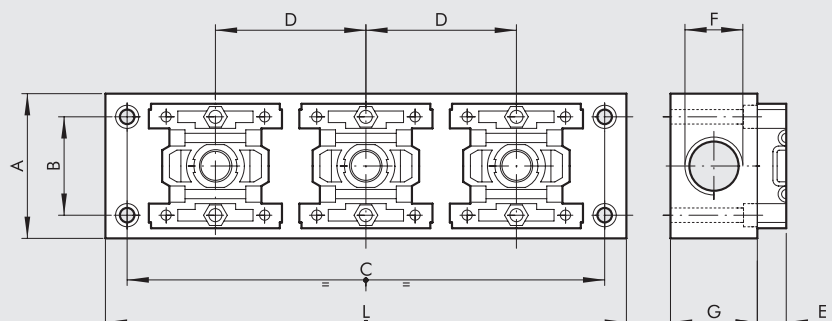


DIMENSIONS

2-POSITION SUB-BASE

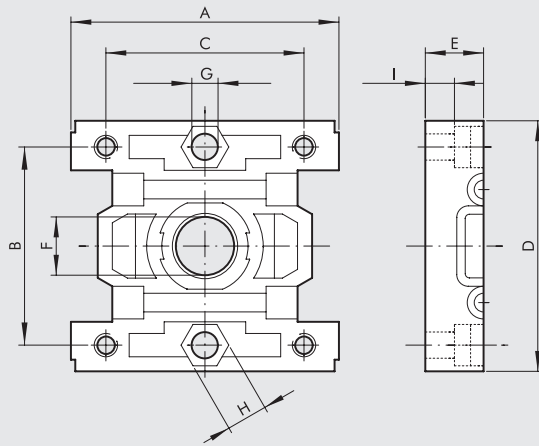


3-POSITION SUB-BASE



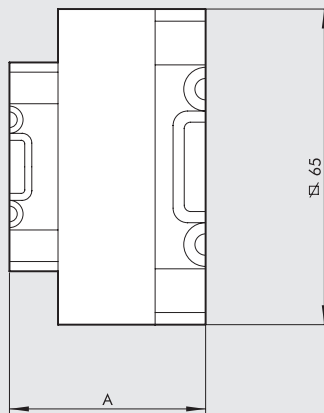
	100 - 2 POS.	100 - 3 POS.	200 - 2 POS.	200 - 3 POS.	300 - 2 POS.	300 - 3 POS.
A	50	50	55	55	60	60
B	34	34	44	44	49	49
C	113	165	135	200	155	230
D	52	52	65	65	75	75
E	10	10	8.5	8.5	10.5	10.5
F	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"
G	30	30	40	40	40	40
L	128	180	150	215	170	245

DIMENSIONS OF ADAPTER BASE



	BA 100	BA 200	BA 300
A	46	59	69
B	34	44	49
C	34	44	49
D	43	55	65
E	10	8.5	10.5
F	10	15	18
G	Hole for M4 screws	Hole for M4 screws	Hole for M5 screws
H	Es. 7	Es. 7	Es. 7
I	5	2	5

DIMENSIONS OF SIZE ADAPTERS



	BA 100 - 200	BA 100 - 300	BA 200 - 300
A	38.5	40.5	39

ORDERING CODES

Code	Description
MULTIPLE SUB-BASES FOR REGULATORS	
9200202	SB 2 100
9300202	SB 2 200
9400202	SB 2 300
9200302	SB 3 100
9300302	SB 3 200
9400302	SB 3 300
ADAPTER BASE	
9201801	BA 100
9321801	BA 200
9401801	BA 300
SIZE ADAPTER	
9301801	BA 100 - 200
9301802	BA 100 - 300
9301803	BA 200 - 300

NOTES