

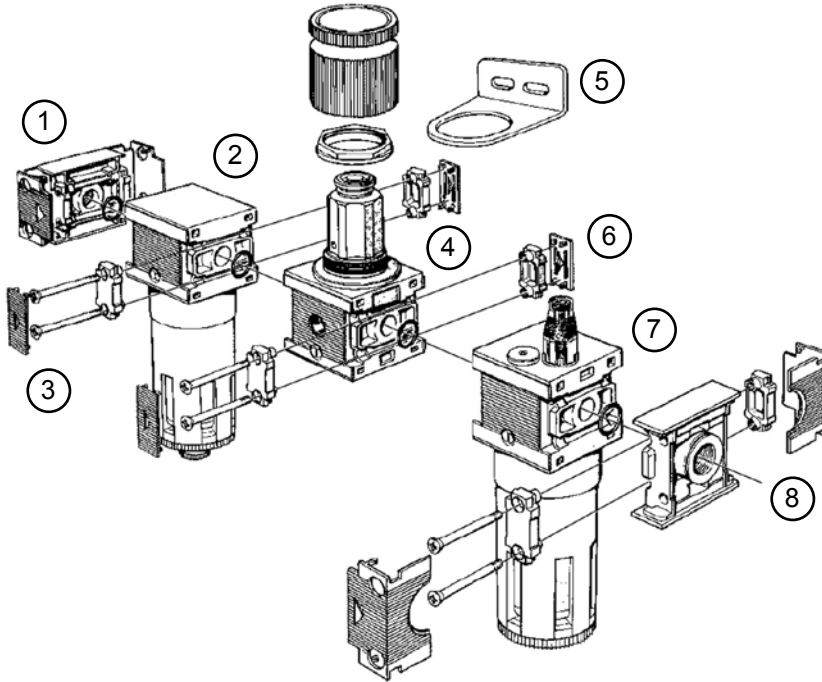
INDUSTRIAL PNEUMATICS - air treatment units

SKILLAIR series

SKILLAIR series allows any combination of shut-off valves, filters, regulators, lubricators, branching modules. Each element can be disassembled without the need to disconnect supply pipes.

Using SKILLAIR series it is possible to create a unit consisting of several FRL elements according to customer specifications. To combine these elements, one or more connection sets must be used. To get the required inlet and outlet connection, the appropriate set of final plates should be used.

An example of FRL unit



- 1, 8 - final plates (set)
- 2 - filter (FIL)
- 3, 6 - connection sets
- 4 - regulating valve (REG)
- 5 - mounting bracket to the wall
- 7 - lubricator (LUB)

The direction of air flow must be compatible with the direction pointed by the arrows on the elements.

series (size)				connection (BSP female)
100	200	300	400	
connection set				-
MW-9230301	MW-9330301	MW-9430301	MW-9630301	-
final plates set *				-
MW-9230401	MW-9330601	-	-	1/4"
MW-9330501	MW-9330701	-	-	3/8"
-	MW-9330801	MW-9430701	-	1/2"
-	-	MW-9530901	-	3/4"
-	-	MW-9531001	MW-9631001	1"
-	-	-	MW-9631101	1.1/4"
-	-	-	MW-9631201	1.1/2"
-	-	-	MW-9631301	2"

* - with input and output connection

An example of FRL SKILLAIR 200 series unit consisting of:

- filter-reducer (FR) - adjustable in the range 0 ÷ 12 bar, filtration 20 µm and RMSA condensate drain,
- lubricator (LUB),
- final plates set with 1/2" connections and connection set.

final plates set	filter-regulator (FR)	connection set	lubricator (LUB)
MW-9330801	MW-3483011A	MW-9330301	MW-3481001A

INDUSTRIAL PNEUMATICS - air treatment units

SKILLAIR series



FIL filter

Size: 100, 200, 300, 400
Degree of filtration: 5 µm, 20 µm, 50 µm
Inlet pressure: Up to 15 bar
Working temp.: Up to +50°C
Connection: 1/4" ÷ 2" BSP female thread
Condensate drain: Manual / semi-automatic (RMSA)
 Automatic (SAC) - 100 and 200 series
 Automatic (RA) - 300 and 400 series
Flow rate: 2000 l/min - 100 series
 3100 l/min - 200 series
 5300 l/min - 300 series
 16500 ÷ 20000 l/min - 400 series
 (input pressure 6 bar and Δp = 1 bar)

FIL

100

5

RMSA

element	series (size)	degree of filtration	condensate drain
FIL - filter	100 200 300 400	5 - 5 µm 20 - 20 µm 50 - 50 µm	RMSA - manual / semi-automatic SAC - automatic for 100 and 200 sizes, using pressure drop RA - automatic for 300 and 400 sizes, float type, drainage independent of the flow and pressure

100		200		300		400		degree of filtration [µm]	condensate drain
code	type	code	type	code	type	code	type		
MW-3280001A	FIL 100 5 RMSA	MW-3480001A	FIL 200 5 RMSA	MW-4480001A	FIL 300 5 RMSA	MW-6180001A	FIL 400 5 RMSA	5	RMSA
MW-3280002A	FIL 100 20 RMSA	MW-3480002A	FIL 200 20 RMSA	MW-4480002A	FIL 300 20 RMSA	MW-6180002A	FIL 400 20 RMSA	20	
MW-3280003A	FIL 100 50 RMSA	MW-3480003A	FIL 200 50 RMSA	MW-4480003A	FIL 300 50 RMSA	MW-6180003A	FIL 400 50 RMSA	50	
MW-3280007A	FIL 100 5 SAC	MW-3480007A	FIL 200 5 SAC	MW-4480004A	FIL 300 5 RA	MW-6180004A	FIL 400 5 RA	5	SAC / RA
MW-3280008A	FIL 100 20 SAC	MW-3480008A	FIL 200 20 SAC	MW-4480005A	FIL 300 20 RA	MW-6180005A	FIL 400 20 RA	20	
MW-3280009A	FIL 100 50 SAC	MW-3480009A	FIL 200 50 SAC	MW-4480006A	FIL 300 50 RA	MW-6180006A	FIL 400 50 RA	50	

INDUSTRIAL PNEUMATICS - air treatment units

SKILLAIR series



REG regulator

Size: 100, 200, 300, 400
Outlet press. range: 0÷2, 0÷4, 0÷8, 0÷12 bar
Inlet pressure: Up to 15 bar
Working temp.: Up to +50°C
Connection: 1/4" ÷ 2" BSP female thread
Pressure gauge port: 1/8" BSP female (1/4" for 400 series)
Flow rate: 1600 l/min - 100 series
 3500 l/min - 200 series
 7000 l/min - 300 series
 18000 ÷ 20000 l/min - 400 series
 (input pressure 6 bar and $\Delta p = 1$ bar)

REG

100

02

element	series (size)	outlet pressure range
REG - regulator	100 200 300 400	02 - 0÷2 bar 04 - 0÷4 bar 08 - 0÷8 bar 012 - 0÷12 bar

100		200		300		400		connection	outlet press. range
code	type	code	type	code	type	code	type		
MW-3202001A	REG 100 02	MW-3402001A	REG 200 02	MW-4402000A	REG 300 02	MW-6102001A	REG 400*	without final plates	0 ÷ 2
MW-3202002A	REG 100 04	MW-3402002A	REG 200 04	MW-4402001A	REG 300 04				0 ÷ 4
MW-3202003A	REG 100 08	MW-3402003A	REG 200 08	MW-4402002A	REG 300 08				0 ÷ 8
MW-3202004A	REG 100 012	MW-3402004A	REG 200 012	MW-4402003A	REG 300 012				0 ÷ 12

* - additional pilot regulating valve (REG P) is required - it defines outlet pressure range

SKILLAIR series



REG P pilot regulator

Size: 1/4"
Outlet press. range: 0÷2, 0÷4, 0÷8, 0÷12 bar
Inlet pressure: Up to 13 bar
Working temp.: Up to +50°C
Connection: 1/4" BSP female thread
Pressure gauge port: 1/8" BSP female thread
Flow rate: 140 l/min
 (input pressure 6 bar and $\Delta p = 1$ bar)

Pilot regulators are utilized when great accuracy in maintaining the set pressure is required under changing operating conditions. Friction is almost eliminated therefore the valve features high accuracy and has low hysteresis. Continuous air release is necessary to ensure proper operation. It is not a sign of malfunction. Typical for regulating valves of large dimensions (400 series). It is recommended to use filtered air.

REG P

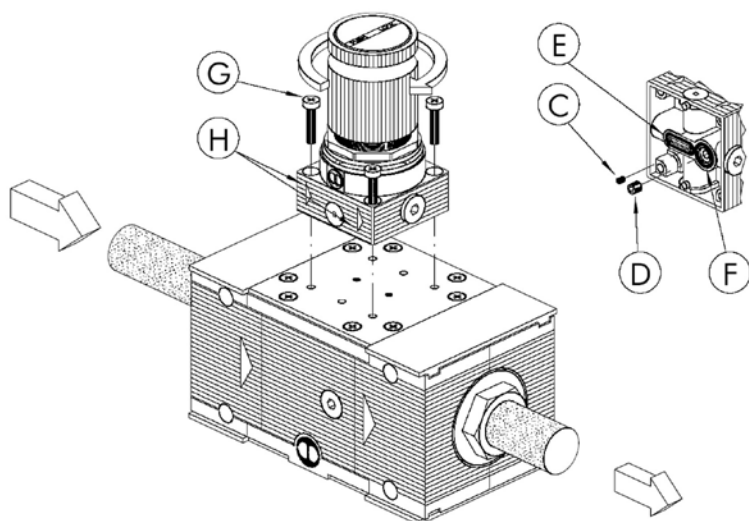
1/4

02

element	size	outlet pressure range
REG P - pilot regulator	1/4 - 1/4"	02 - 0÷2 bar 04 - 0÷4 bar 08 - 0÷8 bar 012 - 0÷12 bar

code	type	connection	outlet pressure range
MW-3206001	REG P 1/4 02	1/4" BSP	0 ÷ 2
MW-3206002	REG P 1/4 04		0 ÷ 4
MW-3206003	REG P 1/4 08		0 ÷ 8
MW-3206004	REG P 1/4 012		0 ÷ 12

Direct pilot regulator assembly on SKILLAIR regulating valve



- Remove the pins C and D under the pilot regulator.
- Check if two seals E and F under the pilot regulator are in place.
- Fix the pilot regulator to the body of the regulating valve using self-threading screws G. Make sure that the arrows H point in the same direction as the arrows on the body of the regulating valve.

INDUSTRIAL PNEUMATICS - air treatment units

SKILLAIR series



FR filter - regulator

Size: 100, 200, 300
Outlet press. range: 0÷2, 0÷4, 0÷8, 0÷12 bar
Degree of filtration: 5 µm, 20 µm, 50 µm
Inlet pressure: Up to 15 bar
Working temp.: Up to +50°C
Connection: 1/4" ÷ 1" BSP thread
Pressure gauge port: 1/8" BSP thread
Flow rate: 1600 l/min - 100 series
 3000 l/min - 200 series
 5600 l/min - 300 series
 (input pressure 6 bar and Δp = 1 bar)

FR	100	5	012	RMSA
element	series	degree of filtration	outlet press. range	condensate drain
FR - f filter - regulator	100 200 300 400	5 - 5 µm 20 - 20 µm 50 - 50 µm	02* - 0÷2 bar 04* - 0÷4 bar 08 - 0÷8 bar 012 - 0÷12 bar * - option	RMSA - manual / semi-automatic SAC - automatic for 100 and 200 sizes, using pressure drop RA - automatic for 300 size, float type, drainage independent of the flow and pressure

100		200		300		outlet press. range [bar]	degree of filtration [µm]	condensate drain
code	type	code	type	code	type			
MW-3283007A	FR 100 5 08 RMSA	MW-3483007A	FR 200 5 08 RMSA	MW-4483004A	FR 300 5 08 RMSA	0 ÷ 8	5	RMSA
MW-3283031A	FR 100 5 08 SAC	MW-3483031A	FR 200 5 08 SAC	MW-4483013A	FR 300 5 08 SAC			SAC / RA
MW-3283008A	FR 100 20 08 RMSA	MW-3483008A	FR 200 20 08 RMSA	MW-4483005A	FR 300 20 08 RMSA		20	RMSA
MW-3283032A	FR 100 20 08 SAC	MW-3483032A	FR 200 20 08 SAC	MW-4483014A	FR 300 20 08 SAC			SAC / RA
MW-3283009A	FR 100 50 08 RMSA	MW-3483009A	FR 200 50 08 RMSA	MW-4483006A	FR 300 50 08 RMSA		50	RMSA
MW-3283033A	FR 100 50 08 SAC	MW-3483033A	FR 200 50 08 SAC	MW-4483015A	FR 300 50 08 SAC			SAC / RA
MW-3283010A	FR 100 5 012 RMSA	MW-3483010A	FR 200 5 012 RMSA	MW-4483007A	FR 300 5 012 RMSA	0 ÷ 12	5	RMSA
MW-3283034A	FR 100 5 012 SAC	MW-3483034A	FR 200 5 012 SAC	MW-4483016A	FR 300 5 012 SAC			SAC / RA
MW-3283011A	FR 100 20 012 RMSA	MW-3483011A	FR 200 20 012 RMSA	MW-4483008A	FR 300 20 012 RMSA		20	RMSA
MW-3283035A	FR 100 20 012 SAC	MW-3483035A	FR 200 20 012 SAC	MW-4483017A	FR 300 20 012 SAC			SAC / RA
MW-3283012A	FR 100 50 012 RMSA	MW-3483012A	FR 200 50 012 RMSA	MW-4483009A	FR 300 50 012 RMSA		50	RMSA
MW-3283036A	FR 100 50 012 SAC	MW-3483036A	FR 200 50 012 SAC	MW-4483018A	FR 300 50 012 RA			SAC / RA

INDUSTRIAL PNEUMATICS - air treatment units

SKILLAIR series



LUB lubricator

Size: 100, 200, 300, 400
Tank volume: 50 cm³ - 100 series
 95 cm³ - 200 series
 160 cm³ - 300 series
 800 cm³ - 400 series
Inlet pressure: Up to 15 bar
Working temp.: Up to +50°C
Connection: 1/4" ÷ 2" BSP female thread
Flow rate: 1500 l/min - 100 series
 3700 l/min - 200 series
 5500 l/min - 300 series
 18000 ÷ 20000 l/min - 400 series
 (input pressure 6 bar and Δp = 1 bar)

LUB

100

STD

element	series (size)	oil filling method
LUB - lubricator	100 200 300 400	STD - standard version, oil refilling by disassembly of the tank or through the cap CA - automatic refilling, refill only when lubricator is working CD - vacuum refilling, pressure drop inside the tank enables refilling. CAML - automatic refilling with minimum level CDML - vacuum refilling with minimum level

100		200		300		400		connection	oil filling method
code	type	code	type	code	type	code	type		
MW-3281001A	LUB 100 STD	MW-3481001A	LUB 200 STD	MW-4481001A	LUB 300 STD	MW-6181001A	LUB 400 STD	without final plates	STD
MW-3281002A	LUB 100 CA	MW-3481002A	LUB 200 CA	MW-4481002A	LUB 300 CA	MW-6181002A	LUB 400 CA		CA
MW-3281005A	LUB 100 CD	MW-3481005A	LUB 200 CD	MW-4481005A	LUB 300 CD	MW-6181004A	LUB 400 CD		CD
				MW-4481006A	LUB 300 CDML	MW-6181006A	LUB 400 CDML		CDML
				MW-4481007A	LUB 300 CAML	MW-6181007A	LUB 400 CAML		CAML

SKILLAIR series



Filter - F

- Versions: FIL100, FIL200, FIL300, FIL400
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Degree of filtration: 5 - 20 - 50 µm
- Nominal flow rate (at 6 bar, Δp = 0.5 bar): 1400 ÷ 20000 l/min (depends on a version)
- Max. working pressure: 13 ÷ 15 bar (depends on version)
- Max. working temperature: +50°C
- Condensate drain: manual, semi-automatic or automatic



Pressure regulator - R

- Versions: REG100, REG200, REG300, REG400
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Outlet pressure range: 0 - 2 - 4 - 8 - 12 bar
- Max. inlet pressure: 13 ÷ 15 bar (depends on version)
- Nominal flow rate (at 6 bar, Δp = 0.5 bar): 1100 ÷ 20000 l/min (depends on a version)
- Max. working temperature: +50°C



Battery regulator

- Version: REG100
- Threaded connection: 1/4", 3/8"
- Outlet pressure range: 0 - 2 - 4 - 8 - 12 bar
- Max. inlet pressure: 15 bar (depends on a version)
- Nominal flow rate (at 6 bar, Δp = 1 bar): 950 l/min
- Max. working temperature: +50°C

Each subsequent throttle valve can have a different set pressure, independent of the previous valve. Working compressed air intake - from the pressure gauge port G 1/8"



Precision pressure regulator

- Threaded connection: 1/4"
- Outlet pressure range: 0 - 2 - 4 - 8 - 12 bar
- Max. inlet pressure: 13 bar
- Nominal flow rate (at 6 bar, Δp = 1 bar): 140 l/min
- Max. working temperature: +50°C



Pilot operated pressure regulator

- Version: regulating valve with Skillair 300 pilot
 - Threaded connection: 1/2", 3/4", 1"
 - Outlet pressure range: depends on pilot valve
 - Max. inlet pressure: 13 bar
 - Nominal flow rate (at 6 bar, Δp = 1 bar): 7000 l/min
 - Max. working temperature: +50°C
- Advantages: low air load loss, excellent sensitivity

SKILLAIR series



Pressure regulator - SKILLTRONIC

- Versions: SKILLTRONIC A and D, SKILLTRONIC 300A and 300D, SKILLTRONIC 400A and 400D
 - Threaded connection: 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
 - Outlet pressure range: 0.3 ÷ 7 bar
 - Max. inlet pressure: 8 bar
 - Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 60 ÷ 18000 l/min (depends on a version)
 - Working temperature range: -10°C up to +50°C
 - Operation voltage: 24 V DC
- Advantages: excellent repeatability, sensitivity and extremely fast response time



Pressure regulator with a filter - FR

- Versions: FR100, FR200, FR300,
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1"
- Outlet pressure range: 0 - 2 - 4 - 8 - 12 bar
- Degree of filtration: 5 - 20 - 50 μm
- Nominal flow rate (at 6 bar, $\Delta p = 1$ bar): 1600 ÷ 5600 l/min (depends on a version)
- Max. inlet pressure: 13 ÷ 15 bar (depends on version)
- Max. working temperature: +50°C
- Condensate drain: manual, semi-automatic or automatic



Lubricator

- Versions: LUB100, LUB200, LUB300, LUB400
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Degree of filtration: 5 - 20 - 50 μm
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 1100 ÷ 21000 l/min (depends on a version)
- Max. working temperature: +50°C
- Various ways of filling with lubricant



Depurator - D

- Versions: DEP100, DEP200, DEP300, DEP400
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Degree of purification: 99.97%
- Degree of filtration: 0.01 μm
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 750 ÷ 8000 l/min (depends on a version)
- Max. working pressure: 13 ÷ 15 bar (depends on a version)
- Max. working temperature: +50°C
- Working medium: compressed air with 5 μm filtration degree
- Condensate drain: manual, semi-automatic or automatic



Start-up valves

- Versions: V3V100, V3V200, V3V300, V3V400
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 1300 to 14000 l/min (depends on a version)
- Max. working pressure: 13 to 15 bar (depends on a version)
- Min. inlet pressure (electrically controlled valves): 3 to 4 bar
- Max. working temperature: +50°C
- Control: manual, pneumatic, electrical

SKILLAIR series



Soft-start valve

- Versions: APR100, APR200, APR300, APR400
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 1300 ÷ 14000 l/min (depends on a version)
- Max. working pressure: 13 ÷ 15 bar (depends on a version)
- Min. inlet pressure (electrically controlled valves): 3 ÷ 4 bar
- Max. working temperature: +50°C
- Control: pneumatic, electrical



Distributor

- Versions: PA100, PA200, PA300, PA400
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Max. working pressure: 13 ÷ 15 bar (depends on a version)
- Max. working temperature: +50°C



Air preparation unit - FRL

- Versions: FRL100, FRL200, FRL300, FRL400
- Unit elements: filter, regulating valve, lubricator
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Outlet pressure range: 0 - 8 - 12 bar
- Degree of filtration: 5 - 20 - 50 μ m
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 300 ÷ 14000 l/min (depends on a version)
- Max. inlet pressure: 13 ÷ 15 bar (depends on a version)
- Max. working temperature: +50°C
- Condensate drain: manual, semi-automatic or automatic



Air preparation unit - FR+L

- Versions: FR+L100, FR+L200, FR+L300
- Unit elements: filter, regulating valve + lubricator
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1"
- Outlet pressure range: 0 - 8 - 12 bar
- Degree of filtration: 5 - 20 - 50 μ m
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 300 ÷ 2300 l/min (depends on a version)
- Max. inlet pressure: 13 ÷ 15 bar (depends on a version)
- Max. working temperature: +50°C
- Condensate drain: manual, semi-automatic or automatic



Air preparation unit - VFRL

- Versions: FRL100, FRL200, FRL300, FRL400
- Unit elements: start-up valve, filter, regulating valve, lubricator
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Outlet pressure range: 0 - 8 - 12 bar
- Degree of filtration: 5 - 20 - 50 μ m
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 300 ÷ 14000 l/min (depends on a version)
- Max. inlet pressure: 13 ÷ 15 bar (depends on a version)
- Max. working temperature: +50°C
- Condensate drain: manual, semi-automatic or automatic

SKILLAIR series



Air preparation unit - V+FR+L

- Version: V+FR+L100, V+FR+L200, V+FR+L300,
- Unit elements: start-up valve, filter, regulating valve, lubricator
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1"
- Outlet pressure range: 0 - 8 - 12 bar
- Degree of filtration: 5 - 20 - 50 μm
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 300 ÷ 2300 l/min (depends on a version)
- Max. inlet pressure: 13 ÷ 15 bar (depends on a version)
- Max. working temp.: +50°C
- Condensate drain: manual, semi-automatic or automatic



Air preparation unit - F+L

- Version: F+L100, F+L200, F+L300, F+L400
- Unit elements: filter, lubricator
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Degree of filtration: 5 - 20 - 50 μm
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 600 ÷ 14000 l/min
- Max. inlet pressure: 13 ÷ 15 bar (depends on a version)
- Max. working temp.: +50°C
- Condensate drain: manual, semi-automatic or automatic



Air preparation unit - F+D

- Version: F+D100, F+D200, F+D300, F+D400
- Unit elements: filter, deaerator
- Threaded connection: 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2"
- Degree of filtration: filter: 5 μm - precision filter: 0.01 μm
- Nominal flow rate (at 6 bar, $\Delta p = 0.5$ bar): 600 ÷ 7000 l/min
- Max. inlet pressure: 13 ÷ 15 bar (depends on a version)
- Max. working temp.: +50°C
- Condensate drain: manual, semi-automatic or automatic

