Vacuum pumps/generators Small

P3010

▶ Patented COAX® technology.

▶ Available with three-stage COAX® cartridge MINI. Choose an Si cartridge for extra vacuum flow, a Pi cartridge for high performance at low feed pressure or an Xi cartridge when high flow and deep vacuum is needed.

▶ Includes a flow-through silencer and a built-in vacuum filter for harsh environments.

▶ Suitable for fast and reliable evacuation in sealed systems.

▶ Slim, compact, configurable and modular design.

▶ Low weight.

Technical data

Description	Unit	Value
Feed pressure, max.	MPa	0.7
Noise level	dBA	66–68
Temperature range	°C	-10–50
Weight	g	110-330
Material		PP, PA, NBR, Al, SS

Vacuum flow

COAX® Cartridge	Feed pressure* MPa	Air consumption Nl/s	Vacuum flow (Nl/s) at different vacuum levels (-kPa)										Max vacuum -kPa
			0	10	20	30	40	50	60	70	80	90	
Pi12-3	0.314	0.44	1.40	0.60	0.44	0.27	0.19	0.14	0.10	0.060	0.030	—	90
Si08-3	0.6	0.44	1.34	0.73	0.55	0.35	0.23	0.17	0.13	0.08	—	—	75
Xi10-3	0.5	0.46	1.43	0.70	0.50	0.33	0.19	0.15	0.11	0.07	0.045	0.011	94

*For vacuum flows at other feed pressures, see COAX® Cartridge data sheets. *Feed pressure tolerance, ± 0.01 MPa.*

Evacuation time

COAX® Cartridge	Feed pressure* MPa	Air consumption Nl/s	Evacuation time (s/l) to reach different vacuum levels (-kPa)									Max vacuum -kPa
			10	20	30	40	50	60	70	80	90	
Pi12-3	0.314	0.44	0.08	0.23	0.49	1.00	1.70	2.60	3.90	6.30	—	90
Si08-3	0.6	0.44	0.10	0.25	0.48	0.80	1.30	2.30	4.60	—	—	75
Xi10-3	0.5	0.46	0.09	0.26	0.50	0.90	1.5	2.2	3.4	5.2	8.8	94

*For evacuation times at other feed pressures, see COAX® Cartridge data sheets. *Feed pressure tolerance, ± 0.01 MPa.*

Blow flow

COAX® cartridge	Feed pressure MPa	Air consumption Nl/s	Blow flow (Nl/s) at different pressure levels (kPa)												Max pressure kPa
			0	20	40	60	70	80	90	100	110	120	130	140	
Pi12-3	0.6	0.75	1.87	1.4	1.33	1.12	1.03	1.03	1.03	1.03	1.0	0.95	0.86	0.79	140
Si08-3	0.6	0.44	1.78	1.16	1.03	0.86	0.80	0.75	0.66	0.53	—	—	—	—	70
Xi10-3	0.6	0.54	1.8	1.3	1.1	0.98	0.85	0.84	0.79	0.71	0.61	—	—	—	90

Vacuum pumps/generators Small

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

	3. Select connection and function module	P3010 Code
B	Connection module high 6x1/8"	01
A	Connection module low 3x1/8"	02
	Function Quick-release connection, 10 and 6 mm, 3 cm³	04
	Function Quick-release connection, 8 and 6 mm, 30 cm³	05
	Function Quick-release connection, 8 and 6 mm, 60 cm³	06
	Function Quick-release connection, 10 and 6 mm, 30 cm³	07
	Function Quick-release connection, 10 and 6 mm, 60 cm³	08
	Function Quick-release connection, 1/4" NPSF and 6 mm, 3 cm³	09
	Function Quick-release connection, 1/4" NPSF and 6 mm, 30 cm³	10
	Function Quick-release connection, 1/4" NPSF and 6 mm, 60 cm³	11
	Function Quick-release connection, 8 and 6 mm, 3 cm³	12
	Function AVM™2 NO	27
	Function AVM™2 NC (power off - NO)	28
	Function CU NC	29
	Function AVM™2 NO, automatic blow-off (1 sec)	30
	Function AVM™2 NC, automatic blow-off (1 sec)	31
	Function AVM™2 NC 2 (power off - NC)	32
	Function CU NO	33

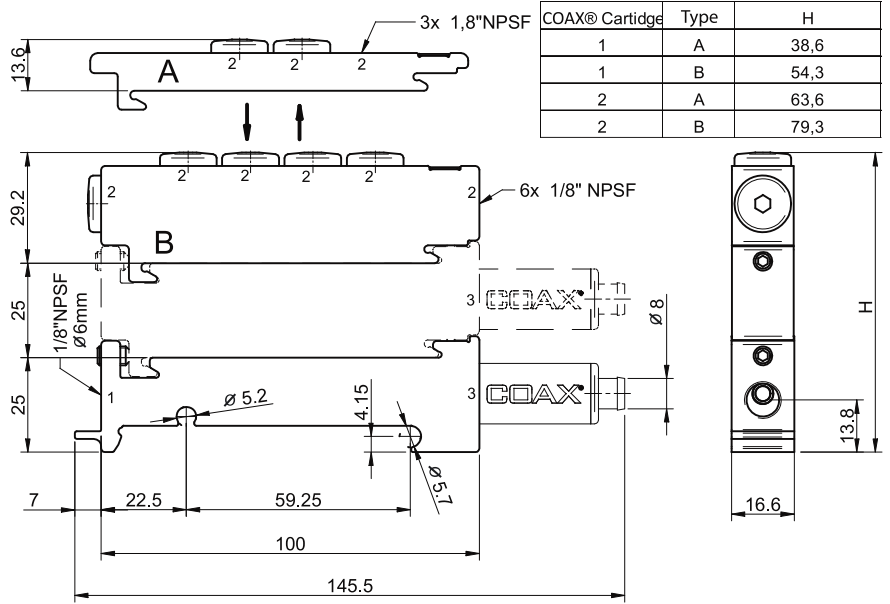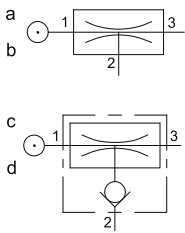*For detailed information on Quick-release, AVM™2 and CU, see separate datasheets.*

4. Select ES	P3010 Code
No energy saving	AA
Valve DS23	AB
piSAVE onoff 2/2 NO, large hysteresis	AC
piSAVE onoff 2/2 NO, small hysteresis	AD

For detailed information on Valve DS 23 and piSAVE onoff, see separate datasheets.

5. Select vacuum sensing	P3010 Code
No vacuum sensing	00
Vacuum switch, adjustable, PNP NO MM8	01
Vacuum switch, adjustable, NPN NO MM8	02
Vacuum switch, adjustable, PNP NO LM8	05
Vacuum switch, adjustable, PNP NO DM8	09
Vacuum switch, adjustable, NPN NO DM8	10
Vacuum switch inductive, adjustable with knob	11
Vacuum switch VS4015 Ø6, 30 -kPa	18
Vacuum switch VS4015 Ø6, 50 -kPa	19
Vacuum switch VS4015 Ø6, 70 -kPa	20
Vacuum switch VS4016 G1/8" male, 30 -kPa	21
Vacuum switch VS4016 G1/8" male, 50 -kPa	22
Vacuum switch VS4016 G1/8" male, 70 -kPa	23

For detailed information on vacuum switches, see separate datasheets.

Specifications subject to change without notice.

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, Connection module high 6x1/8", no energy saving, no vacuum sensing	P3010.00.AE.01.AA.00

COAX® Cartidge	Type	H
1	A	38,6
1	B	54,3
2	A	63,6
2	B	79,3

3x 1,8"NPSF

6x 1/8" NPSF

Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

)piab

P3010 Quick Release Module

▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.
▶ Quick release volume from 3-60 cm³
▶ Includes a flow-through silencer and a built-in vacuum filter for harsh environments.
▶ Slim, compact, configurable and modular design.
▶ Low weight.

Technical data

Description	Unit	Value
Feed pressure, max.	MPa	0.7
Noise level	dBA	66–68
Temperature range	°C	-10–50
Weight	g	168-320
Material		PP, PA, NBR, Al, SS

Performance tables

Depending upon choice of COAX® cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or Vacuum cartridges/integration datasheets.

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

|	3. Select connection and function module	P3010 Code
A	Function Quick-release connection, 10 and 6 mm, 3 cm³	04
B	Function Quick-release connection, 8 and 6 mm, 30 cm³	05
C	Function Quick-release connection, 8 and 6 mm, 60 cm³	06
B	Function Quick-release connection, 10 and 6 mm, 30 cm³	07
C	Function Quick-release connection, 10 and 6 mm, 60 cm³	08
A	Function Quick-release connection, 1/4" NPSF and 6 mm, 3 cm³	09
B	Function Quick-release connection, 1/4" NPSF and 6 mm, 30 cm³	10
C	Function Quick-release connection, 1/4" NPSF and 6 mm, 60 cm³	11
A	Function Quick-release connection, 8 and 6 mm, 3 cm³	12

4. Select ES	P3010 Code
No energy saving	AA
Valve DS23	AB

For detailed information on Valve DS 23, see separate datasheet.

5. Select vacuum sensing	P3010 Code
No vacuum sensing	00
Vacuum switch, adjustable, PNP NO MM8	01
Vacuum switch, adjustable, NPN NO MM8	02
Vacuum switch, adjustable, PNP NO LM8	05
Vacuum switch, adjustable, PNP NO DM8	09
Vacuum switch, adjustable, NPN NO DM8	10
Vacuum switch inductive, adjustable with knob	11
Vacuum switch VS4015 Ø6, 30 -kPa	18
Vacuum switch VS4015 Ø6, 50 -kPa	19
Vacuum switch VS4015 Ø6, 70 -kPa	20

For detailed information on vacuum switches, see separate datasheets.

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, Function Quick-release module 10/6 3cm³, no energy saving, no vacuum sensing	P3010.00.AE.04.AA.00
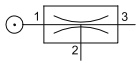
	A	B	C
1x COAX® Cartridge	H=63	H=102	H=102
2x COAX® Cartridge	H=88	H=127	H=127
Length (L)	L=139	L=142	L=205
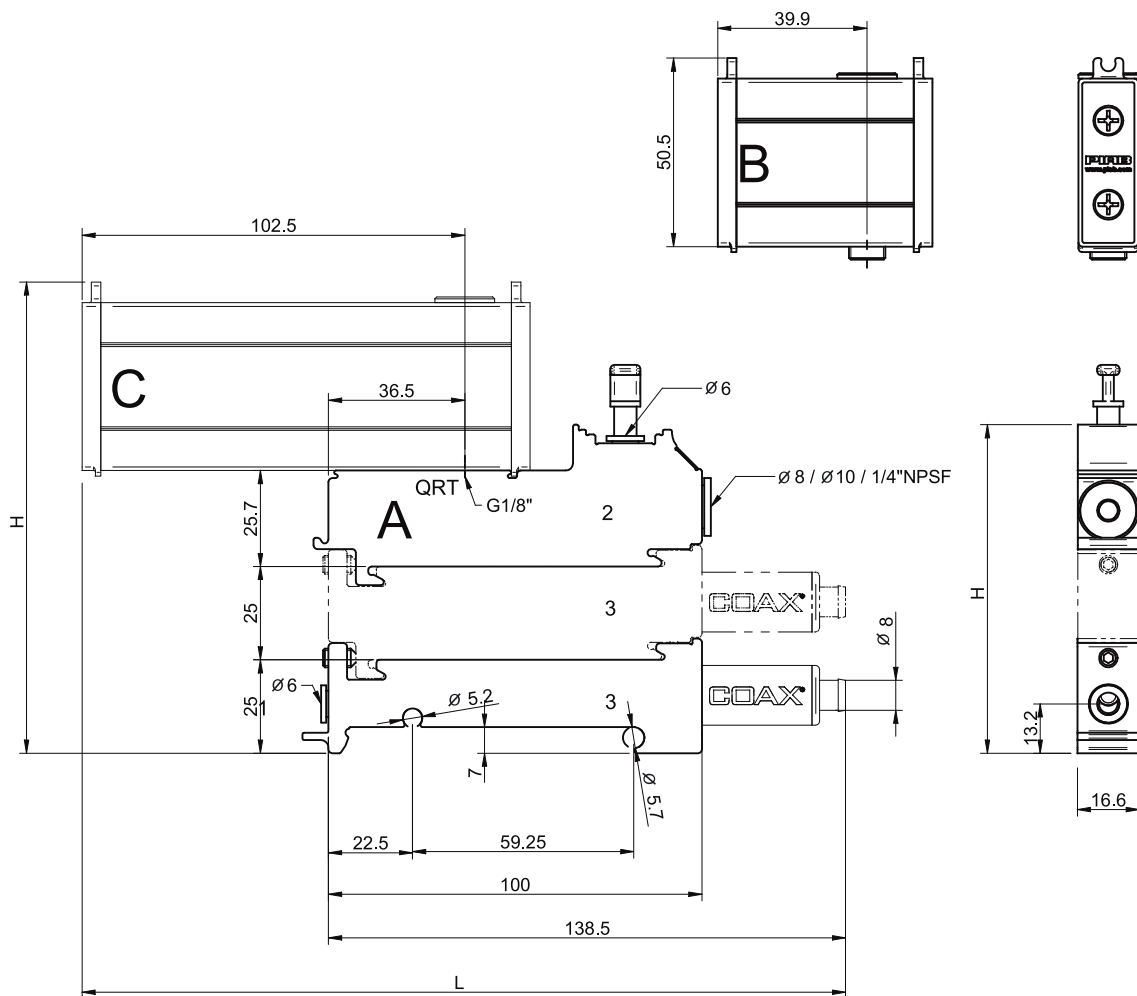
Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

piab

P3010 Energy saving

▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.

▶ Integrated air-saving function (piSAVE onoff) that minimizes the air consumption by controlling the incoming air flow to the pump.

▶ Large hysteresis is recommended for sealed vacuum handling applications such as metal sheet, glass or plastic handling.

▶ Small hysteresis is recommended if a very accurate vacuum level has to be maintained in the process.

▶ Adjustable ES switch level.

▶ Pneumatic function.

Technical data

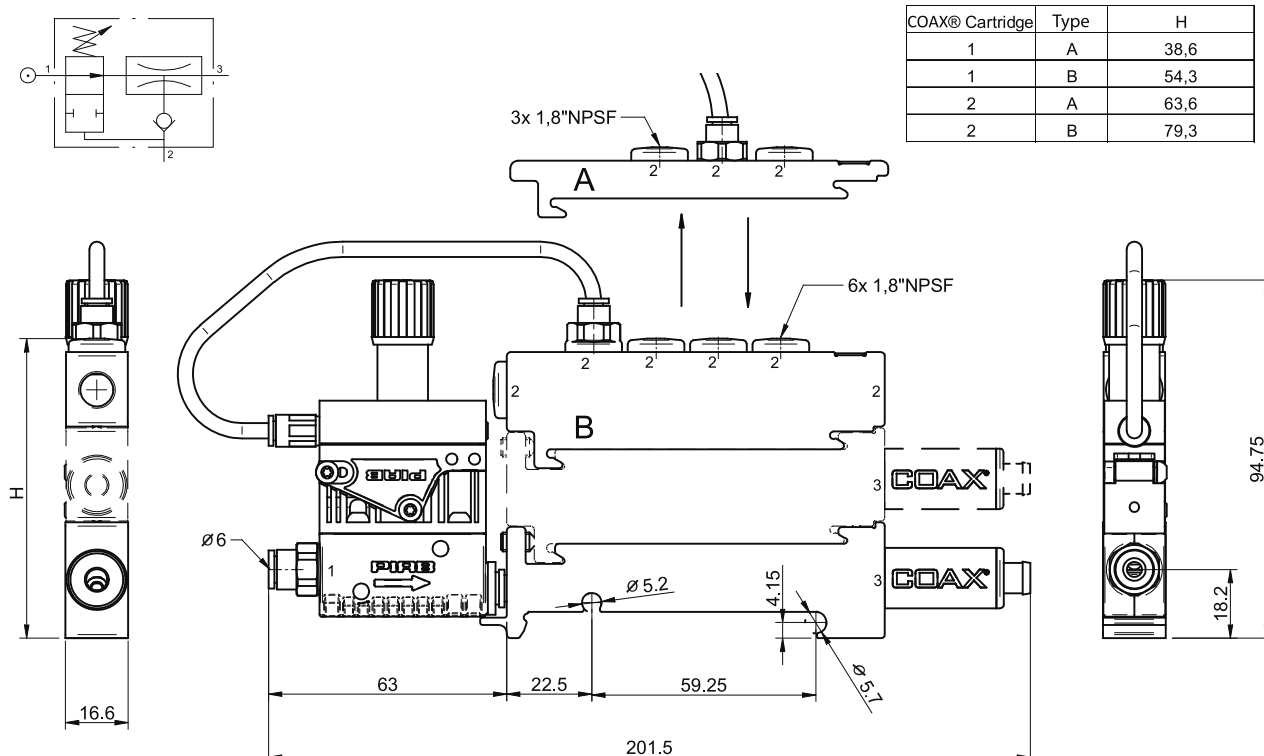| Description	Unit	Value
Feed pressure, max.	MPa	0.7
Noise level	dBA	66–68
Temperature range	°C	-10–50
Weight	g	197-349
Material		PP, PA, NBR, Al, SS
Signal range	-kPa	15-99
Function		2/2 NO
Flow at P1=6 bar and Δp=0.5 bar	Nl/s	7.3
kv		10
Life span	cycles	>10,000,000

Performance tables

Depending upon choice of COAX® cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or Vacuum cartridges/integration datasheets.

piab

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

3. Select connection and function module		P3010 Code
B	Connection module high 6x1/8"	01
A	Connection module low 3x1/8"	02

4. Select ES	P3010 Code
piSAVE onoff 2/2 NO, large hysteresis	AC
piSAVE onoff 2/2 NO, small hysteresis	AD

5. Select vacuum sensing	P3010 Code
No vacuum sensing	00
Vacuum switch VS4016 G1/8" male, 30 -kPa	21
Vacuum switch VS4016 G1/8" male, 50 -kPa	22
Vacuum switch VS4016 G1/8" male, 70 -kPa	23

For detailed information on VS4016, see separate datasheet.

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, non-return valve, Connection module high 6x1/8", piSAVE onoff 2/2 NO, large hysteresis, no vacuum sensing	P3010.00.AF.01.AC.00

COAX® Cartridge	Type	H
1	A	38,6
1	B	54,3
2	A	63,6
2	B	79,3

3x 1,8"NPSF

6x 1,8"NPSF

Ø6

Ø 5.2

4.15

Ø 5.7

63   22.5   59.25

201.5

16.6

94.75

18.2

Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

Vacuum pumps/generators Small

P3010 Solenoid Valve

- ▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.
- ▶ DS 23 3/2 valve suitable for compressed air, filtration 40µ
- ▶ 2.5 W solenoid
- ▶ Manual override
- ▶ Includes a flow-through silencer and a built-in vacuum filter for harsh environments.
- ▶ Slim, compact, configurable and modular design.
- ▶ Low weight.

Technical data

Description	Unit	Value
Feed pressure, max	MPa	0.7
Feed pressure	MPa	0.2–0.6
Material		PP, PA, NBR, Al, SS, Ni, POM, CuZn
Working temperature	°C	-10–50
Weight	g	210-485
Connection compressed air		D=6
Connection exhaust		D=6
Supply voltage	VDC	24
Safety classification, DIN (c) socket		IP65
Display		LED
Flow, nominal	Nl/s	1.3
kv		1.2
Lifespan, mechanical	cycles	100,000,000
Power consumption	W	2.5
Load time rating	%	100
Electrical connection		DIN (c) socket

Performance tables

Depending upon choice of COAX® cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or Vacuum cartridges/integration datasheets.

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

| 3. Select connection and function module		P3010 Code
B	Connection module high 6x1/8"	01
A	Connection module low 3x1/8"	02
	Function Quick-release connection, 10 and 6 mm, 3 cm³	04
	Function Quick-release connection, 8 and 6 mm, 30 cm³	05
	Function Quick-release connection, 8 and 6 mm, 60 cm³	06
	Function Quick-release connection, 10 and 6 mm, 30 cm³	07
	Function Quick-release connection, 10 and 6 mm, 60 cm³	08
	Function Quick-release connection, 8 and 6 mm, 3 cm³	12

For detailed information on Quick-release, see separate datasheet.

4. Select ES	P3010 Code
Valve DS23	AB

5. Select vacuum sensing	P3010 Code
No vacuum sensing	00
Vacuum switch, adjustable, PNP NO MM8	01
Vacuum switch, adjustable, NPN NO MM8	02
Vacuum switch, adjustable, PNP NO LM8	05
Vacuum switch, adjustable, PNP NO DM8	09
Vacuum switch, adjustable, NPN NO DM8	10
Vacuum switch inductive, adjustable with knob	11
Vacuum switch VS4015 Ø6, 30 -kPa	18
Vacuum switch VS4015 Ø6, 50 -kPa	19
Vacuum switch VS4015 Ø6, 70 -kPa	20
Vacuum switch VS4016 G1/8" male, 30 -kPa	21
Vacuum switch VS4016 G1/8" male, 50 -kPa	22
Vacuum switch VS4016 G1/8" male, 70 -kPa	23

For detailed information on vacuum switches, see separate datasheets.

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, Connection module high 6 x 1/8", Solenoid valve DS23, no vacuum sensing	P3010.00.AE.01.AB.00
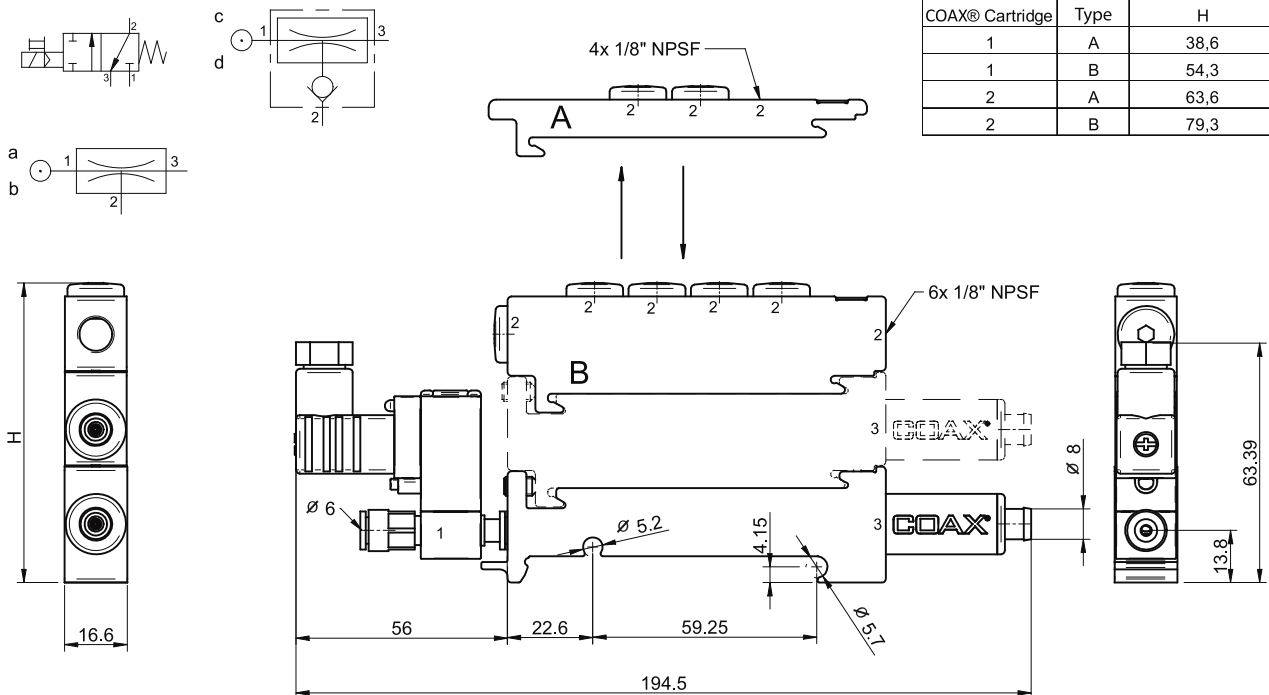
COAX® Cartridge	Type	H
1	A	38,6
1	B	54,3
2	A	63,6
2	B	79,3

Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

P3010 Vacuum switch, adjustable with analogue output

▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.

▶ 1 output NO and 1 analogue output.

▶ Includes a flow-through silencer and a built-in vacuum filter for harsh environments.

▶ High system reliability in case of fluctuating or low feed pressure.

▶ Suitable for fast and reliable evacuation in sealed systems.

Technical data

Description	Unit	Value
Feed pressure, max. (pump)	MPa	0.7
Noise level	dBA	66-68
Pressure, max (switch)	MPa	0.2
Vacuum range	-kPa	0–100
Material		PP, PA, Al, PC, POM, NBR, SS
Temperature range	°C	-10-50
Weight	g	218-470
Function		NO, NPN/PNP
Hysteresis	%	1–15
Supply voltage	VDC	10.8–30
Voltage output	VDC	1–5
Safety classification		IP40
Analogue output, current max. (load resistance min. 5kΩ)	mA	1
Humidity	% RH	35–85
Response time	ms	2
Accuracy at 25°C		±3% F.S.
Current consumption, max	mA	17
High-voltage resistant	VAC	500
Insulation at 500 VDC	MOhm	100
Vibration resistance, 1,5 mm, XYZ, 2 h	Hz	10–500
Electric connection		M8 4 pin male
Current output, max	mA	80

Performance tables

Depending upon choice of COAX® cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or Vacuum cartridges/integration datasheets.

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

| 3. Select connection and function module	P3010 Code
Function Quick-release connection, 10 and 6 mm, 3 cm³	04
Function Quick-release connection, 8 and 6 mm, 30 cm³	05
Function Quick-release connection, 8 and 6 mm, 60 cm³	06
Function Quick-release connection, 10 and 6 mm, 30 cm³	07
Function Quick-release connection, 10 and 6 mm, 60 cm³	08
Function Quick-release connection, 1/4" NPSF and 6 mm, 3 cm³	09
Function Quick-release connection, 1/4" NPSF and 6 mm, 30 cm³	10
Function Quick-release connection, 1/4" NPSF and 6 mm, 60 cm³	11
Function Quick-release connection, 8 and 6 mm, 3 cm³	12

For detailed information on Quick-release, see separate datasheet.

4. Select ES	P3010 Code
No energy saving	AA
Valve DS23	AB

For detailed information on Valve DS 23, see separate datasheet.

5. Select vacuum sensing	P3010 Code
Vacuum switch, adjustable, PNP NO MM8	01
Vacuum switch, adjustable, NPN NO MM8	02

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, Function Quick-release module 10/6 3cm³, no energy saving, Vacuum switch PNP NO MM8	P3010.00.AE.04.AA.01
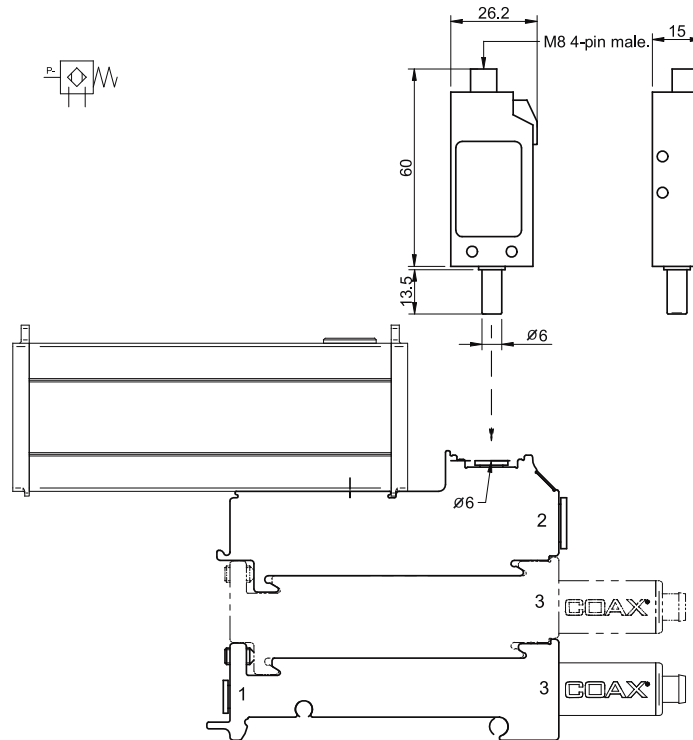
Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

piab

P3010 Vacuum switch, adjustable with 1 output

▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.

▶ Includes a flow-through silencer and a built-in vacuum filter for harsh environments.

▶ High system reliability in case of fluctuating or low feed pressure.

▶ Suitable for fast and reliable evacuation in sealed systems.

Technical data

Description	Unit	Value
Feed pressure, max. (pump)	MPa	0.7
Noise level	dBA	66-68
Pressure, max. (switch)	MPa	0.2
Vacuum range	-kPa	0–100
Material		PP, PA, PC, Al, NBR, SS
Temperature range	°C	-10–50
Weight	g	174-426
Function		NO
Hysteresis		±2% F.S.
Voltage supply	VDC	10.8–30
Safety classification		IP40
Humidity	%RH	35–85
Response time, approx.	ms	1
Accuracy, at 25°C		±3% F.S.
Current consumption, max	mA	20
High-voltage resistance	VDC	500
Insulation at 500 VDC	MOhm	100
Vibration resistance, 1.5 mm, XYZ, 2 h	Hz	10–55
Current output, max	mA	80

Performance tables

Depending upon choice of COAX® cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or Vacuum cartridges/integration datasheets.

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

| 3. Select connection and function module	P3010 Code
Function Quick-release connection, 10 and 6 mm, 3 cm³	04
Function Quick-release connection, 8 and 6 mm, 30 cm³	05
Function Quick-release connection, 8 and 6 mm, 60 cm³	06
Function Quick-release connection, 10 and 6 mm, 30 cm³	07
Function Quick-release connection, 10 and 6 mm, 60 cm³	08
Function Quick-release connection, 1/4" NPSF and 6 mm, 3 cm³	09
Function Quick-release connection, 1/4" NPSF and 6 mm, 30 cm³	10
Function Quick-release connection, 1/4" NPSF and 6 mm, 60 cm³	11
Function Quick-release connection, 8 and 6 mm, 3 cm³	12

For detailed information on Quick-release, see separate datasheet.

4. Select ES	P3010 Code
No energy saving	AA
Valve DS23	AB

For detailed information on Valve DS 23, see separate datasheet.

5. Select vacuum sensing	P3010 Code
Vacuum switch, adjustable, PNP NO LM8	05

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, Function Quick-release module 10/6 3cm³, no energy saving, Vacuum switch PNP NO LM8	P3010.00.AE.04.AA.05
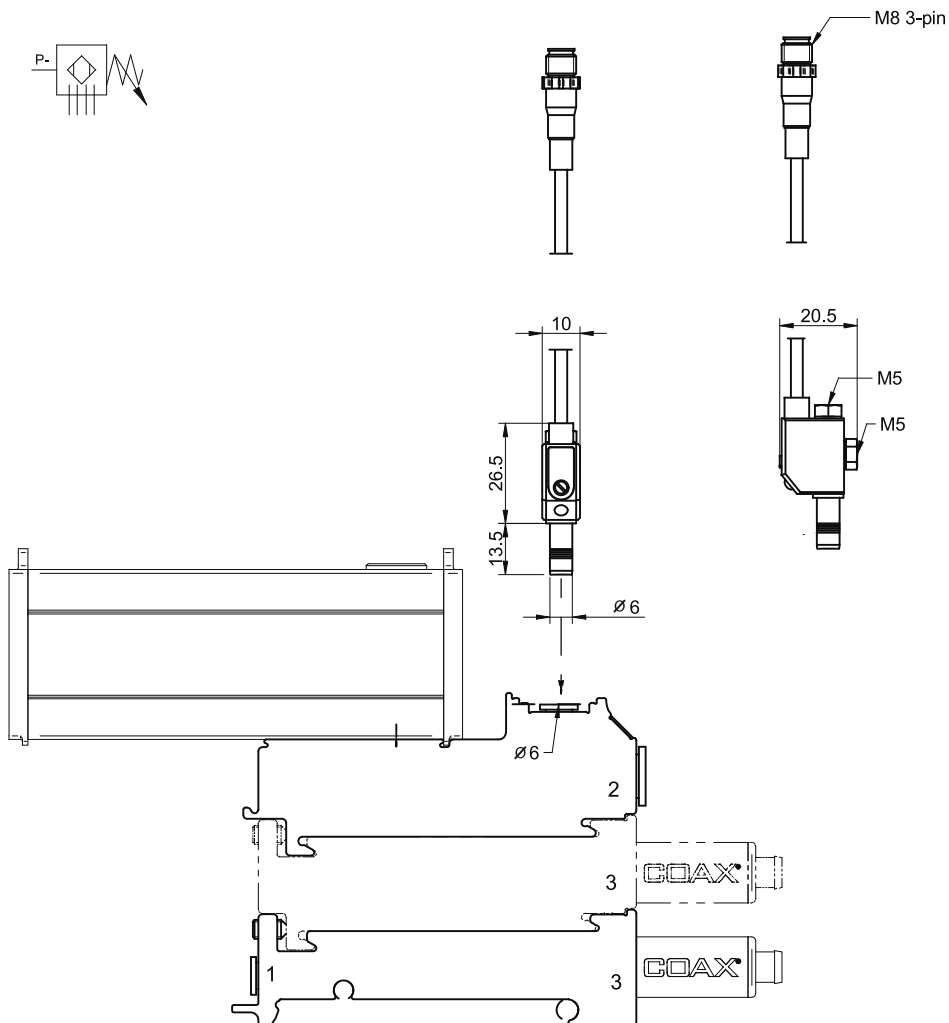
Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

P3010 Vacuum switch, adjustable with LED-Display

▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.

▶ Includes a flow-through silencer and a built-in vacuum filter for harsh environments.

▶ High system reliability in case of fluctuating or low feed pressure.

▶ Suitable for fast and reliable evacuation in sealed systems.

Technical data

Description	Unit	Value
Feed pressure, max. (pump)	MPa	0.7
Noise level	dBA	66-68
Pressure, max. (switch)	MPa	0.2
Vacuum range	-kPa	0–100
Material		PP, PA, PC, POM, NBR, Al, SS
Temperature range	°C	-10–50
Weight	g	220-472
Function		2 NO, NPN/PNP
Hysteresis	kPa	2
Voltage supply	VDC	12–24
Dielectric strength, 1 min	VAC	500
Safety classification		IP40
Humidity	%RH	35–85
Response time	ms	2
Accuracy at 25°C		±3% F.S
Current consumption, maximum	mA	35
Insulation resistance, at 500 VDC	MO/MW	100
Display		2-digits LED
Current output, max.	mA	80

Performance tables

Depending upon choice of COAX® cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or Vacuum cartridges/integration datasheets.

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

| 3. Select connection and function module	P3010 Code
Function Quick-release connection, 10 and 6 mm, 3 cm³	04
Function Quick-release connection, 8 and 6 mm, 30 cm³	05
Function Quick-release connection, 8 and 6 mm, 60 cm³	06
Function Quick-release connection, 10 and 6 mm, 30 cm³	07
Function Quick-release connection, 10 and 6 mm, 60 cm³	08
Function Quick-release connection, 1/4" NPSF and 6 mm, 3 cm³	09
Function Quick-release connection, 1/4" NPSF and 6 mm, 30 cm³	10
Function Quick-release connection, 1/4" NPSF and 6 mm, 60 cm³	11
Function Quick-release connection, 8 and 6 mm, 3 cm³	12

For detailed information on Quick-release, see separate datasheet.

4. Select ES	P3010 Code
No energy saving	AA
Valve DS23	AB

For detailed information on Valve DS 23, see separate datasheet.

5. Select vacuum sensing	P3010 Code
Vacuum switch, adjustable, PNP NO DM8	09
Vacuum switch, adjustable, NPN NO DM8	10

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, Function Quick-release module 10/6 3cm³, no energy saving, Vacuum switch PNP NO DM8	P3010.00.AE.04.AA.09
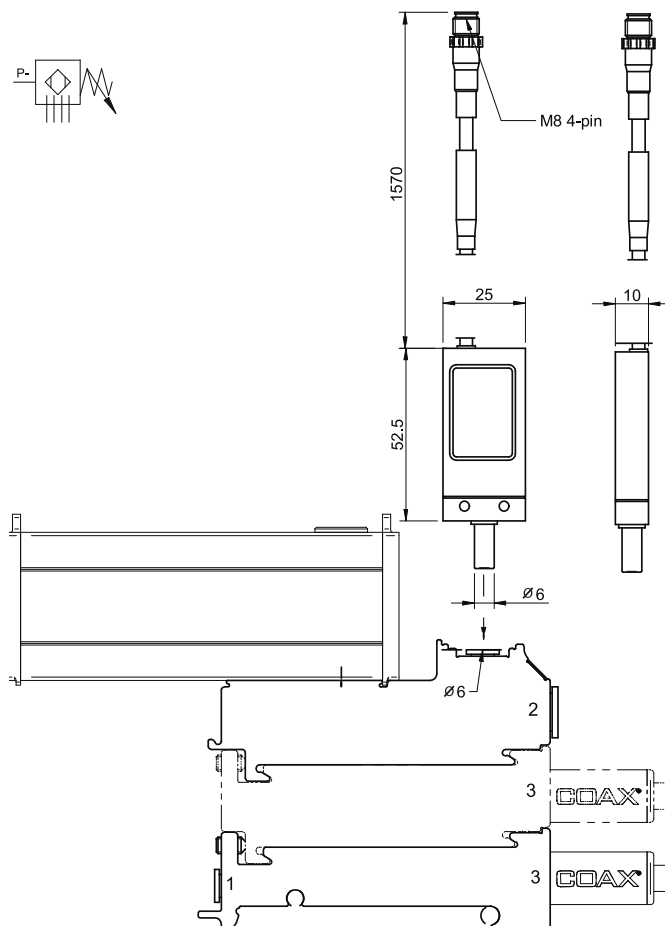
Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

P3010 Vacuum switch, inductive universal

- ▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.
- ▶ Adjustable vacuum switch is actuated at a set vacuum level and set by a knob.
- ▶ Includes a flow-through silencer and a built-in vacuum filter for harsh environments.
- ▶ High system reliability in case of fluctuating or low feed pressure.
- ▶ Suitable for fast and reliable evacuation in sealed systems.

Technical data

Description	Unit	Value
Feed pressure, max. (pump)	MPa	0.7
Noise level	dBA	66-68
Pressure, max (switch)	MPa	0.6
Material		PP, PBTP, PVC, PA, SS, NBR, POM, Al, CuZn
Temperature range	°C	-10-50
Weight	g	233-485
Function		PNP NO, PNP NC, NPN NO and NPN NC
Hysteresis	kPa	2
Cable		2 x 0.14 mm^2 x 2m
Supply voltage	VDC	24 (5–36)
Safety classification		IP67
Current Output, max	mA	200
Voltage drop, max	VDC	4.6

The switch must be connected in series with the load.

Performance tables

Depending upon choice of COAX® cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or Vacuum cartridges/integration datasheets.

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

| 3. Select connection and function module	P3010 Code
Function Quick-release connection, 10 and 6 mm, 3 cm³	04
Function Quick-release connection, 8 and 6 mm, 30 cm³	05
Function Quick-release connection, 8 and 6 mm, 60 cm³	06
Function Quick-release connection, 10 and 6 mm, 30 cm³	07
Function Quick-release connection, 10 and 6 mm, 60 cm³	08
Function Quick-release connection, 1/4" NPSF and 6 mm, 3 cm³	09
Function Quick-release connection, 1/4" NPSF and 6 mm, 30 cm³	10
Function Quick-release connection, 1/4" NPSF and 6 mm, 60 cm³	11
Function Quick-release connection, 8 and 6 mm, 3 cm³	12

For detailed information on Quick-release, see separate datasheet.

4. Select ES	P3010 Code
No energy saving	AA
Valve DS23	AB

For detailed information on Valve DS 23, see separate datasheet.

5. Select vacuum sensing	P3010 Code
Vacuum switch inductive, adjustable with knob	11

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, Function Quick-release module 10/6 3cm³, no energy saving, Vacuum switch inductive, adj. knob	P3010.00.AE.04.AA.11
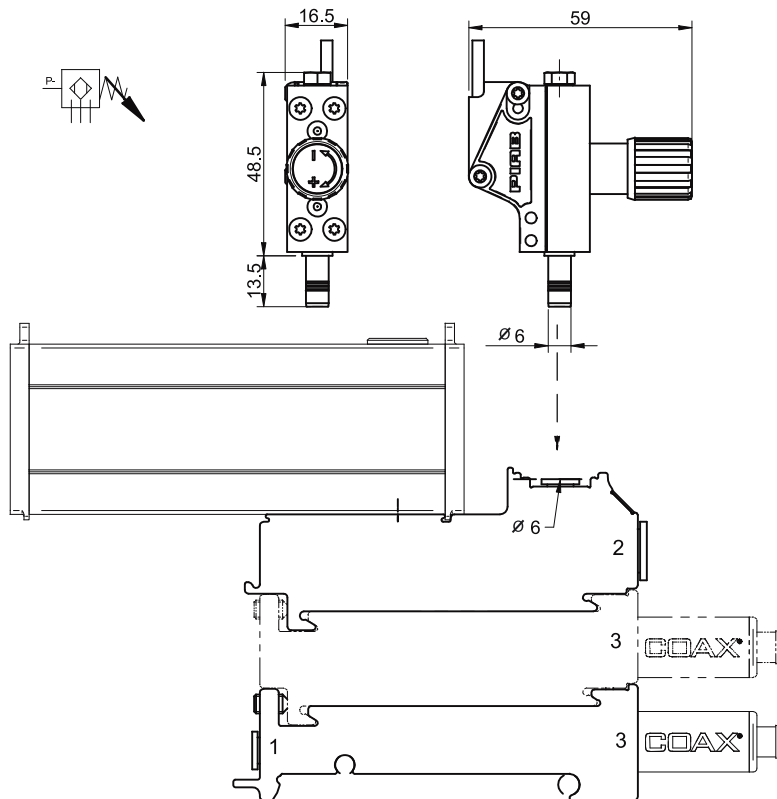
Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

Vacuum pumps/generators Small

P3010 Vacuum switch, mini, pre-set, push-in

▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.

▶ Electromechanical vacuum switch with digital output.

▶ Built-in red LED that indicates status.

▶ Includes a flow-through silencer and a built-in vacuum filter for harsh environments.

▶ High system reliability in case of fluctuating or low feed pressure.

▶ Suitable for fast and reliable evacuation in sealed systems.

Technical data

Description	Unit	Value
Feed pressure, max. (pump)	MPa	0.7
Noise level	dBA	66-68
Pressure, max (switch)	MPa	0.2
Material		PP, PA, Al, , NBR, TPU, SS, CuZn(Au)
Temperature range	°C	-10-50
Weight	g	173-425
Signal range	-kPa	30, 50 or 70 +5/-3
Function		PNP NO/NC, NPN NO/NC
Hysteresis	kPa	6 ± 1
Voltage	VDC	24 (12-30)
Safety classification		IP40
Current max	mA	100 inductive/400 resistive
Voltage drop, max (100mA/24V inductive load)	VDC	0.055
Response time	ms	4
Display		Red LED
Electric connection		M8 3-pin male

Performance tables

Depending upon choice of COAX® cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or Vacuum cartridges/integration datasheets.

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

2. COAX® cartridge modules	P3010 Code
COAX® artridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

Specifications subject to change without notice.

| 3. Select connection and function module	P3010 Code
Function Quick-release connection, 10 and 6 mm, 3 cm³	04
Function Quick-release connection, 8 and 6 mm, 30 cm³	05
Function Quick-release connection, 8 and 6 mm, 60 cm³	06
Function Quick-release connection, 10 and 6 mm, 30 cm³	07
Function Quick-release connection, 10 and 6 mm, 60 cm³	08
Function Quick-release connection, 1/4" NPSF and 6 mm, 3 cm³	09
Function Quick-release connection, 1/4" NPSF and 6 mm, 30 cm³	10
Function Quick-release connection, 1/4" NPSF and 6 mm, 60 cm³	11
Function Quick-release connection, 8 and 6 mm, 3 cm³	12

For detailed information on Quick-release, see separate datasheet.

4. Select ES	P3010 Code
No energy saving	AA
Valve DS23	AB

For detailed information on Valve DS 23, see separate datasheet.

5. Select vacuum sensing	P3010 Code
Vacuum switch VS4015 Ø6, 30 -kPa	18
Vacuum switch VS4015 Ø6, 50 -kPa	19
Vacuum switch VS4015 Ø6, 70 -kPa	20

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, Function Quick-release module 10/6 3cm³, no energy saving, Vacuum switch VS4015 30 -kPa	P3010.00.AE.04.AA.18
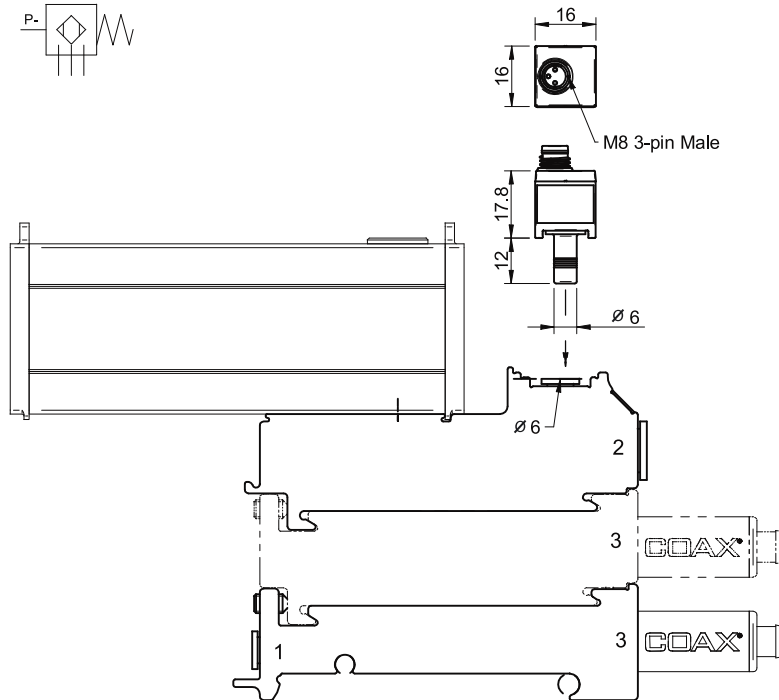
Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

piab

P3010 Vacuum switch, mini, pre-set, threaded

▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.

▶ Electromechanical vacuum switch with digital output.

▶ Built-in red LED that indicates status.

▶ Includes a flow-through silencer and a built-in vacuum filter for harsh environments.

▶ High system reliability in case of fluctuating or low feed pressure.

▶ Suitable for fast and reliable evacuation in sealed systems.

Technical data

Description	Unit	Value
Feed pressure, max. (pump)	MPa	0.7
Noise level	dBA	66-68
Pressure, max (switch)	MPa	0.2
Material		PP, PA, Al, , NBR, TPU, SS, CuZn(Au)
Temperature range	°C	-10-50
Weight	g	115-362
Signal range	-kPa	30, 50 or 70 +5/-3
Function		PNP NO/NC, NPN NO/NC
Hysteresis	kPa	6 ± 1
Voltage	VDC	24 (12-30)
Safety classification		IP40
Current max	mA	100 inductive/400 resistive
Voltage drop, max (100mA/24V inductive load)	VDC	0.055
Response time	ms	4
Display		Red LED
Electric connection		M8 3-pin male

Performance tables

Depending upon choice of COAX® cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or Vacuum cartridges/integration datasheets.

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

| 2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® artridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

3. Select connection and function module	P3010 Code
Connection module high 6x1/8"	01
Connection module low 3x1/8"	02

4. Select ES	P3010 Code
No energy saving	AA
Valve DS23	AB

For detailed information on Valve DS 23, see separate datasheet.

5. Select vacuum sensing	P3010 Code
Vacuum switch VS4016 G1/8" male, 30 -kPa	21
Vacuum switch VS4016 G1/8" male, 50 -kPa	22
Vacuum switch VS4016 G1/8" male, 70 -kPa	23

Example	Ordering number
Housing, connection Ø 6 mm Pi12-3FSx1, Connection module high 6x1/8", no energy saving, Vacuum switch VS4016 30 -kPa	P3010.00.AE.01.AA.21
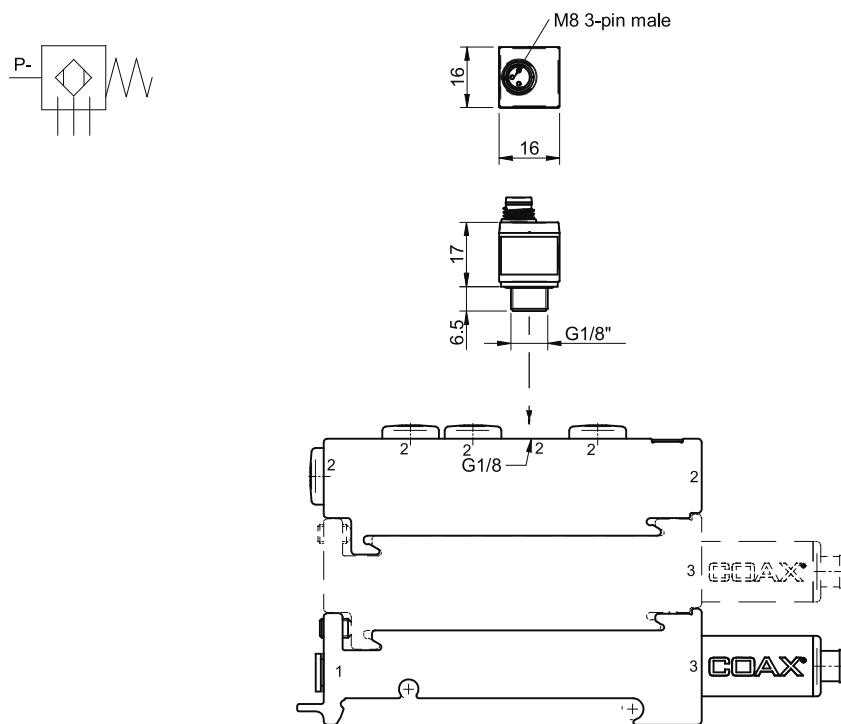
Ordering information, accessories

Description	Art. No.
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

Vacuum pumps/generators Small

piab

P3010 AVM™2

▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.

▶ AVM™2, Automatic Vacuum Management, unit with built-in control and monitoring functions.

▶ Valves for vacuum on/off, blow-off, blow-off flow control and non-return valve.

▶ Option with Normally Closed "fail safe" on/off valve (NC). It changes to an open valve if power is lost and vacuum will be generated. A conventional normally closed on/off valve (NC 2) is also available. It stays closed if electrical power is lost or removed.

▶ Option with automatic blow-off (1 sec) reduces number of outputs needed from PLC or I/O box.

▶ Analogue vacuum sensor with two digital outputs.

▶ Digital display with "-kPa" or "-inHg" as unit options.

▶ Integrated energy saving function (ES) that minimizes the air consumption in sealed systems. The ES function can be activated manually or via a signal (signal override).

▶ Three-colour LED status indicators for valves, signal outputs and ES.

Technical data

Description	Unit	Value
Feed pressure, max.	MPa	0.7
Noise level	dBA	66–68
Material		PA, NBR, Al, SS, PMMA
Temperature range	°C	0–50
Weight	g	250-330
Signal range, adjustable	-kPa	20-80
Hysteresis	kPa	7±1
Voltage	VDC	24 (22-28)
Ripple, max.	V_P	$1V_{rms}$
Current consumption, nominal	mA	110
Safety classification		IP65 [NEMA 4]
Current, max. output load		100
Display		LED indicators, numeric
Flow. blow-off	Nl/s	0-7.5

Performance tables

Depending upon choice of COAX® Cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or COAX® Cartridge datasheets.
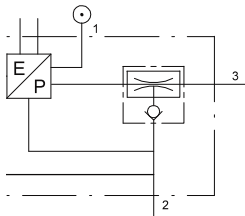
Ordering information

| 1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2, non-return valve	AD

Specifications subject to change without notice.

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

3. Select connection and function module	P3010 Code
Function AVM™2 NO	27
Function AVM™2 NC (power off - NO)	28
Function AVM™2 NO, automatic blow-off (1 sec)	30
Function AVM™2 NC, automatic blow-off (1 sec)	31
Function AVM™2 NC 2 (power off - NC)	32

4. Select ES	P3010 Code
No energy saving	AA

5. Select vacuum sensing	P3010 Code
No vacuum sensing	00

Example	Ordering number
Housing, connection 1/8" NPSF Pi12-3FSx1, non-return valve, Function AVM2 NO, no energy saving function, no vacuum sensing	P3010.01.AF.27.AA.00

COAX® Cartridge	H	H1
1	102,4	31
2	127,4	56
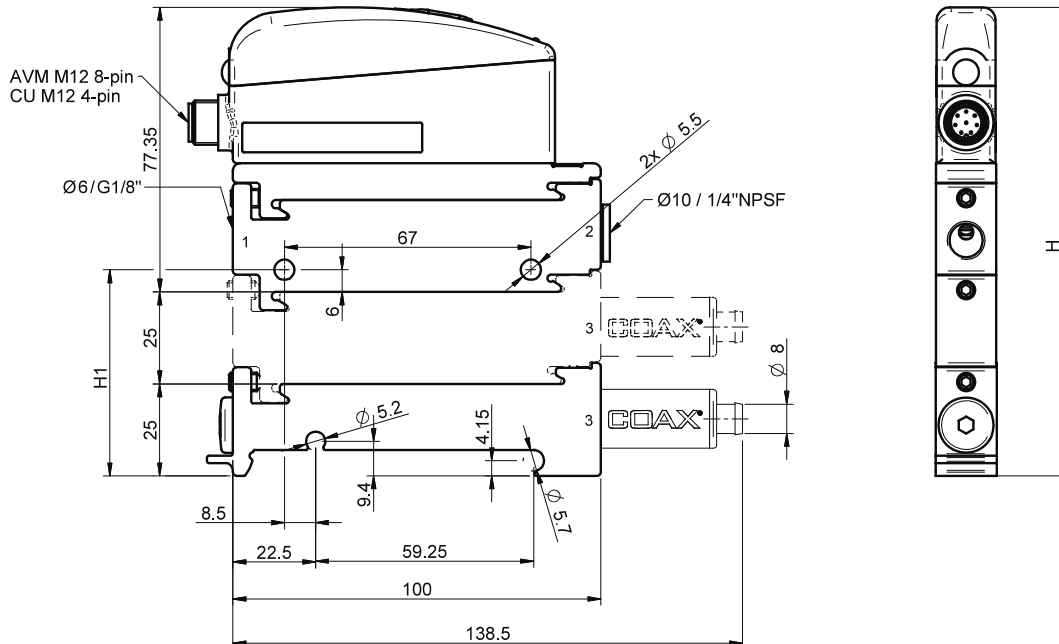
Ordering information, accessories

Description	Art. No.
Cable M12 8-pin female, PUR, L=2m	0110238
Cable M12 8-pin female, PUR, L=5m	0117746
Y-cable M12 8-pin female, 2xM12 4-pin male, PNP, PUR, L=2m	0118407
Y-cable M12 8-pin female, 2xM12 5-pin male, NPN, PUR, L=2m	0120229
Sealing kit P3010, NBR	0104201

The sealing kit includes flap valves, compressed air filter and vacuum filter.

Vacuum pumps/generators Small

P3010 CU

▶ Patented multistage COAX® cartridge - MINI - with Pi, Si, Xi cartridge.

▶ Integrated Control Unit (CU) with electric valves for vacuum on-off and blow-off control.

▶ Mechanical valve for blow-off flow adjustment.

▶ Slim, compact, configurable and modular design.

Technical data

Description	Unit	Value
Feed pressure, max.	MPa	0.7
Noise level	dBA	66–68
Material		PA, NBR, Al, SS, PMMA
Temperature range	°C	0–50
Weight	g	236-316
Voltage	VDC	24 (22–28)
Safety classification		IP65 [NEMA 4]
Humidity	%RH	90
Current consumption, nominal	mA	60
Ripple, max.	V_P	1 V_{rms}
Flow, blow-off	Nl/s	0–7.5
Function, on/off		NC

Performance tables

Depending upon choice of COAX® Cartridge, performance data of the P3010 can be found in the tables for vacuum flow, evacuation time and blow flow on the P3010 or COAX® Cartridge datasheets.

Ordering information

1. Select housing	P3010 Code
Housing, connection Ø=6 mm	00
Housing, connection 1/8" NPSF	01

2. COAX® cartridge modules	P3010 Code
COAX® cartridge module Pi12-3FSx1	AE
COAX® cartridge module Pi12-3FSx1, non-return valve	AF
COAX® cartridge module Pi12-3FSx2	AG
COAX® cartridge module Pi12-3FSx2, non-return valve	AH
COAX® cartridge module Si08-3FSx1	AA
COAX® cartridge module Si08-3FSx1, non-return valve	AB
COAX® cartridge module Si08-3FSx2	AC
COAX® cartridge module Si08-3FSx2, non-return valve	AD
COAX® cartridge module Xi10-3FSx1	AI
COAX® cartridge module Xi10-3FSx1, non-return valve	AJ
COAX® cartridge module Xi10-3FSx2	AK
COAX® cartridge module Xi10-3FSx2, non-return valve	AL

3. Select connection and function module	P3010 Code
Function CU NC	29
Function CU NO	33

4. Select ES	P3010 Code
No energy saving	AA

Specifications subject to change without notice.

5. Select vacuum sensing	P3010 Code
No vacuum sensing	00

Example	Ordering number
Housing, connection 1/8" NPSF Pi12-3FSx1, Function CU NC, no energy saving function, no vacuum sensing	P3010.01.AE.29.AA.00
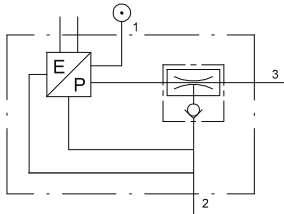
COAX® Cartridge	H	H1
1	102,4	31
2	127,4	56
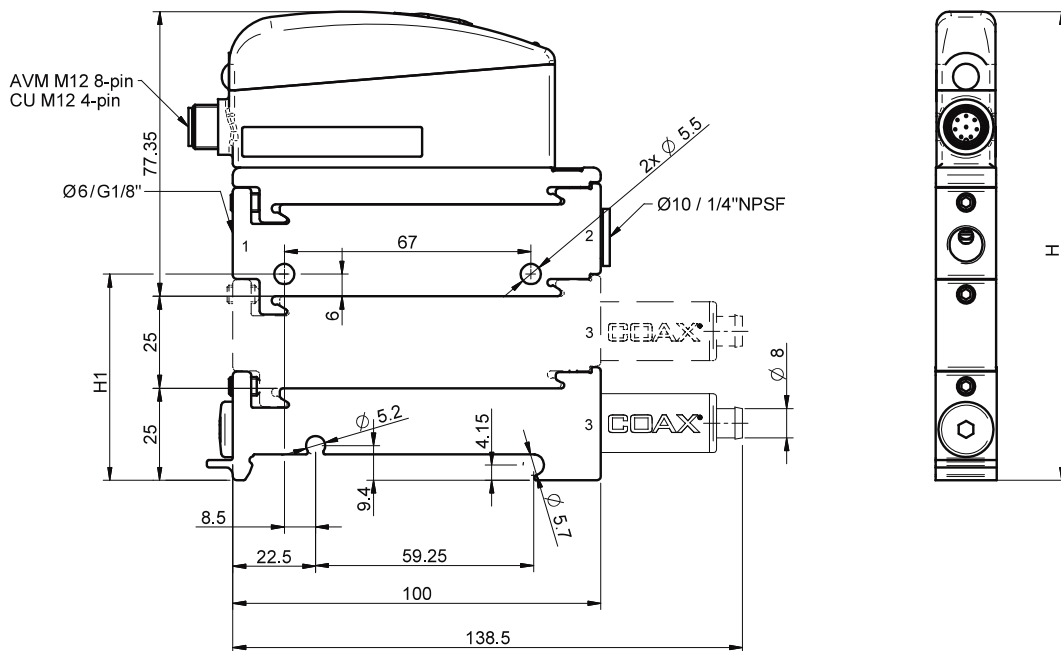
Ordering information, accessories

Description	Art. No.
Cable M12 4-pin female, PUR, L=5m*	0121817
Cable M12 4-pin female, M12 4-pin male, PUR, L=2m	0118322
Sealing kit P3010, NBR	0104201

*The sealing kit includes flap valves, compressed air filter and vacuum filter. *) Pin No. 1 is not used.*