

<b>Control technology at a glance</b> .....	<b>635</b>
<b>Pressure regulators</b> .....	<b>636</b>
<b>Vacuum regulators</b> .....	<b>640</b>



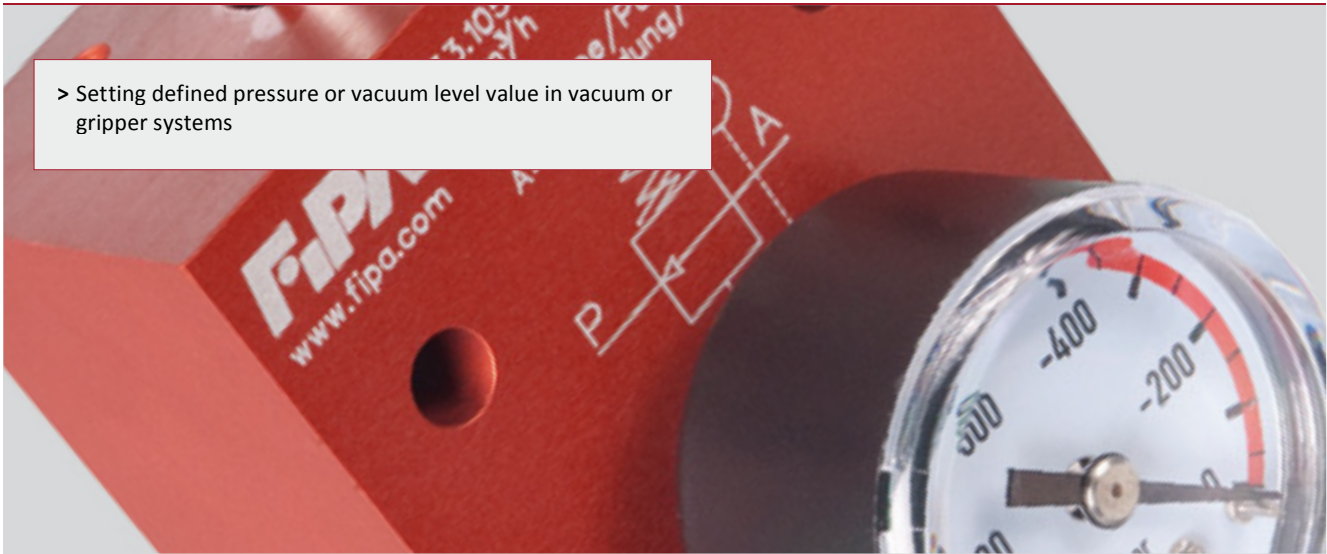
Notes:



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FIPA control technology



> Setting defined pressure or vacuum level value in vacuum or gripper systems



**Pressure regulators**

- > Defined reduction in operating pressure for compressed air-operated vacuum generators (ejectors)
- > Limitation of gripper holding force in End-of-Arm-Tooling
- > Simple adjustment
- > Models for inline installation available

> See page 636



**Vacuum regulators with external leakage**

- > Limitation of vacuum level, e.g. from rotary-vane pumps or vacuum tanks (safety adjustment)
- > Can also be used in dust-contaminated environments
- > Simple adjustment

> See page 640



**Vacuum regulators**

- > Maintenance of system vacuum independently of air-permeability of workpiece and of fluctuations in the vacuum supply
- > Precise adjustment
- > Suitable for measuring or testing purposes

> See page 642



### Pressure regulators - screw-in type



#### Product Description

- > Defined reduction in operating pressure for ejectors, limitation of holding force of grippers
- > Pressure adjustment by means of knurled screw
- > Integrated overpressure protection

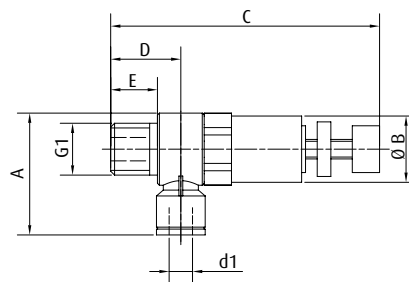
#### Notes

- > Only suitable for compressed air

#### Technical data

Item no.	Operating pressure [bar]	Regulating range [bar]	Accuracy ( $\pm$ ) [%]	Operating temperature [ $^{\circ}$ C]	Weight [g]
32.570	0 - 9	1 - 8	5	0 - 60	16
32.571	0 - 9	1 - 8	5	0 - 60	36
32.572	0 - 9	1 - 8	5	0 - 60	17
32.573	0 - 9	1 - 8	5	0 - 60	37
32.574	0 - 9	1 - 8	5	0 - 60	59
32.575	0 - 9	1 - 8	5	0 - 60	38
32.576	0 - 9	1 - 8	5	0 - 60	60

#### Dimensions



Item no.	G1	d1 [mm]	A [mm]	Ø B [mm]	C [mm]	D [mm]	E [mm]
32.570	M5	4	20.5	10	48.5	9	3.5
32.571	R1/8	4	28.5	14	60	14.5	8
32.572	M5	6	22.5	10	48.5	9.5	3.5
32.573	R1/8	6	30.5	14	60	14.5	8
32.574	R1/4	6	34	17	65	17.5	11
32.575	R1/8	8	34	14	60	15.5	8
32.576	R1/4	8	37	17	65	18.5	11



### Pressure regulators - screw-in type, with pressure gauge



#### Product Description

- > Defined reduction in operating pressure for ejectors, limitation of holding force of grippers
- > Pressure adjustment by means of knurled screw, pressure monitoring by means of gauge (readout in MPa)
- > Integrated overpressure protection

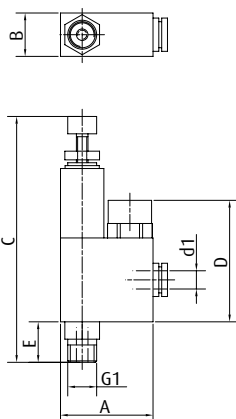
#### Notes

- > Only suitable for compressed air

#### Technical data

Item no.	Operating pressure [bar]	Regulating range [bar]	Accuracy ( $\pm$ ) [%]	Operating temperature [ $^{\circ}$ C]	Weight [g]
32.587	0 - 9	1 - 8	5	0 - 60	28
32.588	0 - 9	1 - 8	5	0 - 60	55
32.589	0 - 9	1 - 8	5	0 - 60	28
32.590	0 - 9	1 - 8	5	0 - 60	55
32.591	0 - 9	1 - 8	5	0 - 60	84
32.592	0 - 9	1 - 8	5	0 - 60	55
32.593	0 - 9	1 - 8	5	0 - 60	84

#### Dimensions



Item no.	G1	d1 [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
32.587	M5	4	27.5	15	57.5	42	3.5
32.588	R1/8	4	36	15	81.5	42	8
32.589	M5	6	28	15	57.5	42	3.5
32.590	R1/8	6	36.5	15	81.5	42	8
32.591	R1/4	6	39.5	19	89.5	42	11
32.592	R1/8	8	36.5	15	81.5	42	8
32.593	R1/4	8	39.5	19	89.5	42	11



# Control technology | Pressure regulators

## "Inline" pressure regulators

### "Inline" pressure regulators



#### Product Description

- > Defined reduction in operating pressure for ejectors, limitation of holding force of grippers
- > Pressure adjustment by means of knurled screw
- > Integrated overpressure protection

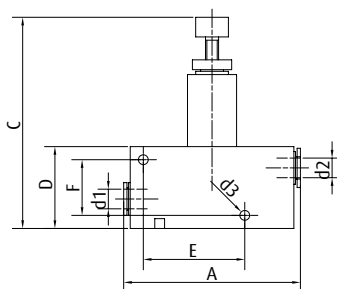
#### Notes

- > Only suitable for compressed air

#### Technical data

Item no.	Operating pressure [bar]	Regulating range [bar]	Accuracy ( $\pm$ ) [%]	Operating temperature [ $^{\circ}$ C]	Weight [g]
32.577	0 - 9	1 - 8	5	0 - 60	36
32.578	0 - 9	1 - 8	5	0 - 60	36
32.579	0 - 9	1 - 8	5	0 - 60	36
32.580	0 - 9	1 - 8	5	0 - 60	60
32.581	0 - 9	1 - 8	5	0 - 60	60

#### Dimensions



Item no.	d1 [mm]	d2 [mm]	d3 [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
32.577	4	4	3.2	44	15	63	25	30	17
32.578	6	4	3.2	44.5	15	63	25	30	17
32.579	6	6	3.2	45	15	63	25	30	17
32.580	8	6	3.2	57	19	68	29	39	21
32.581	8	8	3.2	57	19	68	29	39	21



### "Inline" pressure regulators with pressure gauge



#### Product Description

- > Defined reduction in operating pressure for ejectors, limitation of holding force of grippers
- > Easy installation thanks to vertical and horizontal cross-holes
- > Pressure adjustment by means of knurled screw, pressure monitoring by means of gauge (readout in MPa)
- > Integrated overpressure protection

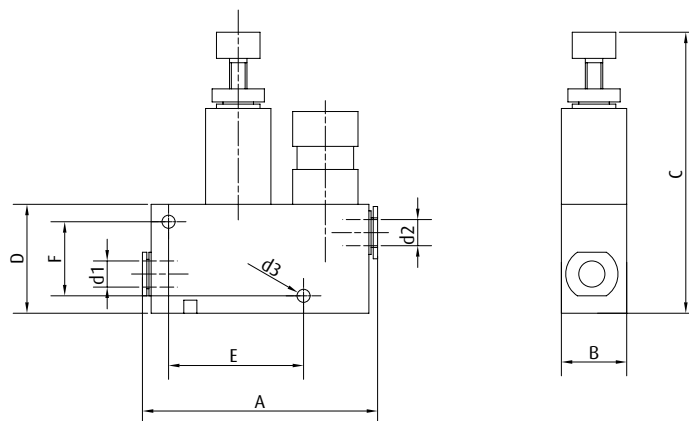
#### Notes

- > Only suitable for compressed air

#### Technical data

Item no.	Operating pressure [bar]	Regulating range [bar]	Accuracy ( $\pm$ ) [%]	Operating temperature [ $^{\circ}$ C]	Weight [g]
32.582	0 - 9	1 - 8	5	0 - 60	48
32.583	0 - 9	1 - 8	5	0 - 60	48
32.584	0 - 9	1 - 8	5	0 - 60	48
32.585	0 - 9	1 - 8	5	0 - 60	73
32.586	0 - 9	1 - 8	5	0 - 60	73

#### Dimensions



Item no.	d1 [mm]	d2 [mm]	d3 [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
32.582	4	4	3.2	55	15	63	25	30	17
32.583	6	4	3.2	55.5	15	63	25	30	17
32.584	6	6	3.2	56	15	63	25	30	17
32.585	8	6	3.2	69	19	67.5	29	39	21
32.586	8	8	3.2	69	19	67.5	29	39	21



# Control technology | Vacuum regulators

## Vacuum regulators with external leakage

### Vacuum regulators with external leakage

Safety control valve particularly for oil-free rotary-vane pumps



#### Product Description

- > Setting a constant vacuum level when handling workpieces with varying porosities or leakage
- > Suitable as safety valve if dry-running rotary-vane pumps are to run continuously at maximum vacuum
- > Control of vacuum through automatic venting when a preset vacuum level is reached
- > Manual adjustment via fine thread, mechanical opening via spring load

#### Notes

- > Turn the knob towards the (+) to increase the vacuum threshold value at which the regulator will start drawing in outside air. Turn the knob towards the (-) to reduce this value.

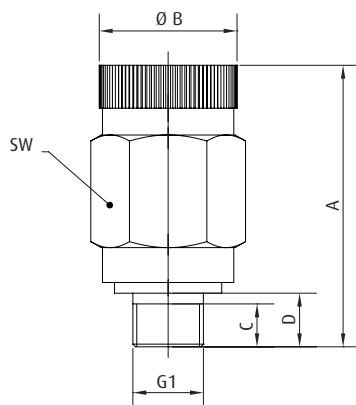
#### Ordering notes

- > On request suitable as safety valve for side channel blowers to limit the max. vacuum level (diameter of regulator and blower inlet should be identical)

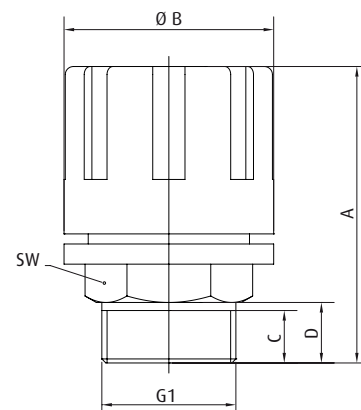
#### Technical data

Item no.	Maximum control volume [m <sup>3</sup> /h]	Regulating range [mbar]	Operating temperature [°C]	Weight [g]
73.002	16	-999 - 0	-20 - 80	270
73.003	40	-999 - 0	-20 - 80	658

#### Dimensions



73.002



73.003

Item no.	G1	A [mm]	Ø B [mm]	C [mm]	D [mm]	SW
73.002	G1/4	63	26	8	10	25
73.003	G1	82	52	13	15	32





### Vacuum regulators



#### Product Description

- > Vacuum adjustment of consumer loads, such as vacuum cups in handling systems
- > Automatic compensation of fluctuations in vacuum supply
- > Highly precise, continuous vacuum adjustment via a rotary knob with locking mechanism
- > Suitable for conducting leakage tests for inspection / measurement purposes

#### Notes

- > Turning the rotary knob clockwise increases the vacuum on the consumer side (SET) with the vacuum generator connected (VAC)

#### Ordering notes

- > Included in scope of delivery: Vacuum gauge incl. connection adapter

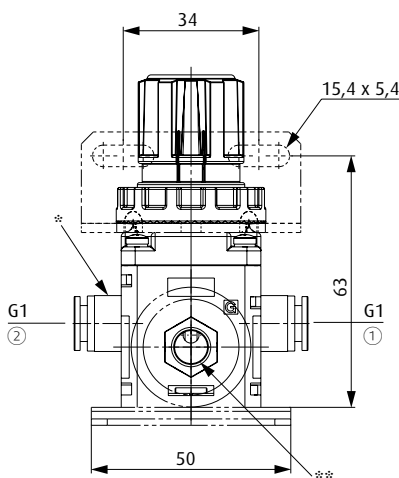
#### Technical data

Item no.	Maximum flow rate [m <sup>3</sup> /h]	Regulating range [mbar]	Accuracy [mbar]	Operating temperature [°C]	Weight [g]	Suitable vacuum gauge
<b>33.220</b>	8.4	-999 - 0	< 1.3	5 - 60	135	91.001-R (p.696)
<b>33.220-G1/4</b>	8.4	-999 - 0	< 1.3	5 - 60	135	91.001-R (p.696)
<b>33.230</b>	14	-999 - 0	< 1.3	5 - 60	250	91.001-R (p.696)
<b>33.230-G1/2</b>	14	-999 - 0	< 1.3	5 - 60	250	91.001-R (p.696)
<b>33.230-G1/4</b>	14	-999 - 0	< 1.3	5 - 60	250	91.001-R (p.696)

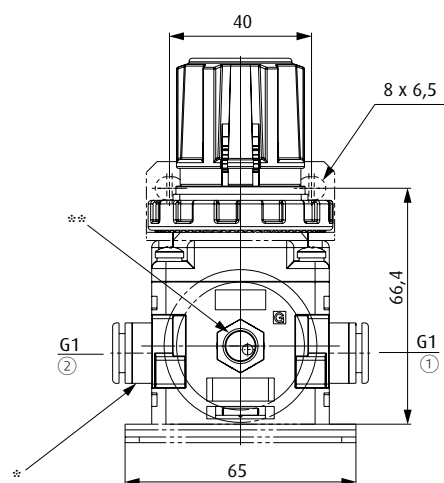
#### Dimensions

	d1 [mm]
33.220	8
33.220-G1/4	--
33.230	8
33.230-G1/2	--
33.230-G1/4	--

#### Dimensions



**33.220 | 33.220-G1/4**



**33.230 | 33.230-G1/2 | 33.230-G1/4**

① = Connection to the vacuum cup / product side (description SET) ② = Pump connection (description VAC) \* = Plug connection  
 \*\* = R1/8 Gauge connection



### Vacuum regulators



Vacuum regulator 33.105 with vacuum gauge

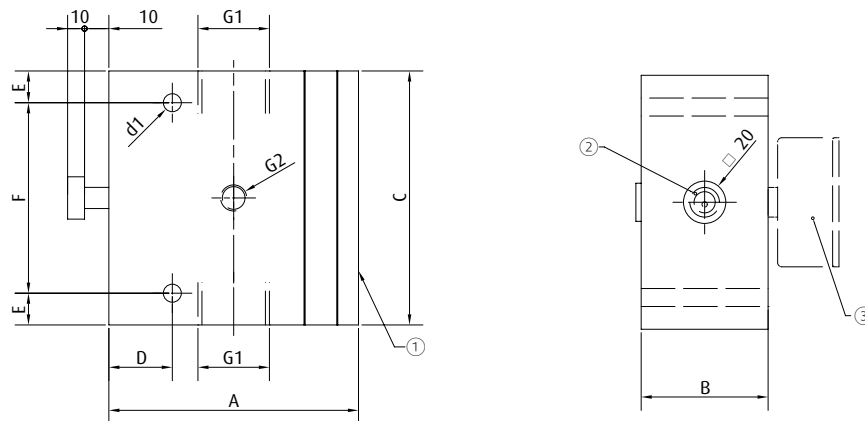
### Product Description

- > Vacuum adjustment of consumer loads, such as vacuum cups in handling systems
- > Integration of a vacuum gauge recommended
- > Blow-off is possible if vacuum gauge is not connected
- > Any installation position

### Technical data

Item no.	Maximum flow rate [m <sup>3</sup> /h]	Regulating range [mbar]	Operating temperature [°C]	Weight [kg]	Suitable vacuum gauge
33.105		-200 - -999	-10 - 80	0.6	91.001 (p.696)
33.120	80	-200 - -999	-10 - 80	2.1	91.003 (p.696)

### Dimensions



① = The bottom side must not be covered ② = Adjusting screw ③ = Vacuum gauge (optional)

Item no.	G1	G2	A [mm]	B [mm]	C [mm]	D [mm]	d1 [mm]	E [mm]	F [mm]
33.105	G3/8	G1/8	89	40	60	20	6.5	10	40
33.120	G1	G1/4	118	60	120	30	8.5	15	90