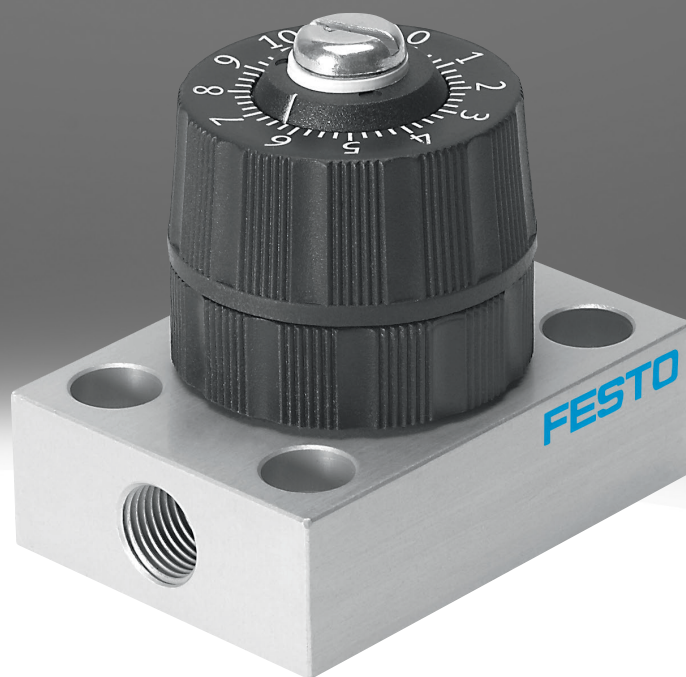


## Precision one-way flow control valve GRP

**FESTO**



Type code

001	Series
GRP	Precision one-way flow control valve

002	Size
10	10
70	70
160	160

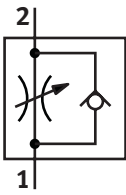
003	Pneumatic connection 1
G1/8	Male thread G1/8
PK-3	CK connection 3 mm
PK-4	CK connection 4 mm

004	Materials
AL	Aluminium

## Datasheet

## General technical data



Size	10	70	160
Pneumatic connection, port 2	PK-3	G1/8	PK-3
Pneumatic connection, port 1	PK-3	G1/8	PK-3
Valve function	One-way flow control function		
Adjustment component	Rotary knob with scale		
Type of mounting	Front panel mounting	On sub-base	Front panel mounting
Mounting position	optional		
Standard nominal flow rate in flow control direction	3.8 l/min	40.7 l/min	75.8 l/min
Standard nominal flow rate in blocked direction	95 l/min	88 l/min	245 l/min

## Operating and environmental conditions

Size	10	70	160
Pneumatic connection, port 2	PK-3	G1/8	PK-3
Operating pressure	0 ... 8 bar		
Operating pressure from 2 to 1	0 ... 8 bar		
Operating medium	Compressed air to ISO 8573-1:2010 [5:4:3], Inert gases		
Note on operating and pilot medium	Lubricated operation not possible		
Standard nominal flow rate in blocked direction	95 l/min	88 l/min	245 l/min
Standard nominal flow rate in flow control direction	3.8 l/min	40.7 l/min	75.8 l/min
Standard nominal flow rate in throttle direction for 0.1->0 MPa (1->0 bar, 14.5->0 psi)	1.65 l/min	19 l/min	38 l/min
Standard nominal flow rate in return direction for 0.1->0 MPa (1->0 bar, 14.5->0 psi)	15 ... 50 l/min	20 ... 60 l/min	25 ... 90 l/min
Standard flow rate in flow control direction 0.6->0 MPa (6->0 bar, 87->0 psi)	5.2 l/min	60 l/min	129 l/min
Standard flow rate in non-return direction 0.6->0 MPa (6->0 bar, 87->0 psi)	131 l/min	127 l/min	245 l/min
Ambient temperature	-10 ... 50°C		
Media temperature	-10 ... 50°C		
Corrosion resistance class CRC <sup>1)</sup>	0 - No corrosion stress		

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

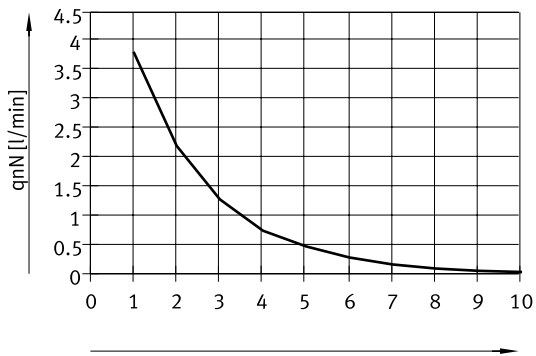
## Materials

Pneumatic connection, port 1	G1/8	PK-3	PK-4
Material housing	PA-reinforced		
Material retaining bracket	–	Wrought aluminium alloy	
Material PK connections	–	Wrought aluminium alloy, Brass	
Material sub-base	Wrought aluminium alloy	–	
Material screws	Steel		
Material seals	NBR, PVC		
Note on materials	RoHS-compliant		
LABS (PWIS) conformity	VDMA24364 zone III		

## Datasheet

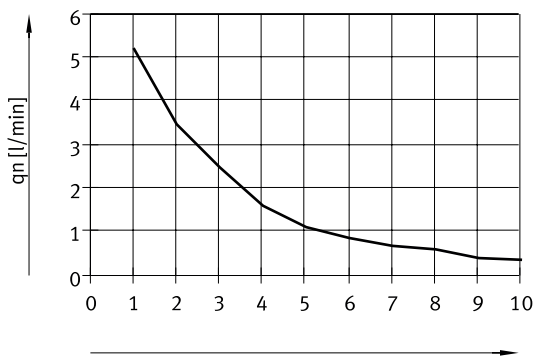
### Standard nominal flow rate $q_{nN}$ at 6 → 5 bar depending on the throttle position $n$ (size 10)

GRP-10-PK-3



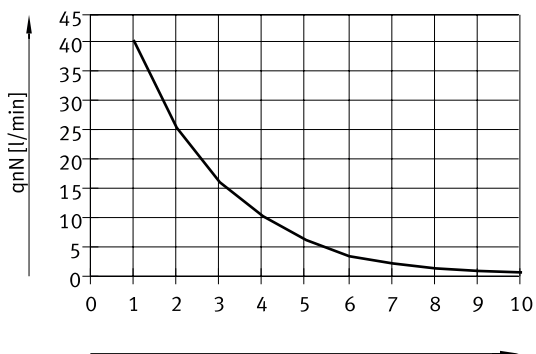
### Standard flow rate $q_n$ at 6 → 0 bar as a function of the throttle position $n$ (size 10)

GRP-10-PK-3



### Standard nominal flow rate $q_{nN}$ at 6 → 5 bar depending on the throttle position $n$ (size 70)

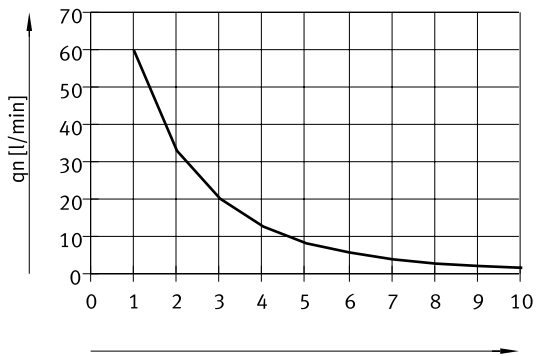
GRP-70-PK-3



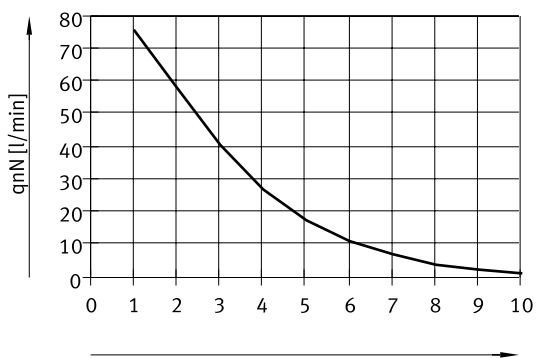
## Datasheet

Standard flow rate  $q_N$  at 6 → 0 bar as a function of the throttle position  $n$  (size 70)

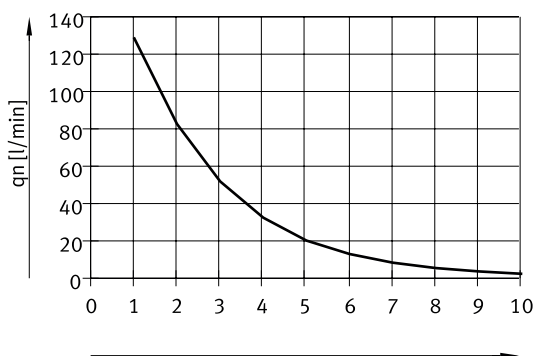
GRP-70-PK-3

Standard nominal flow rate  $q_{nN}$  at 6 → 5 bar depending on the throttle position  $n$  (size 160)

GRP-160-PK-4

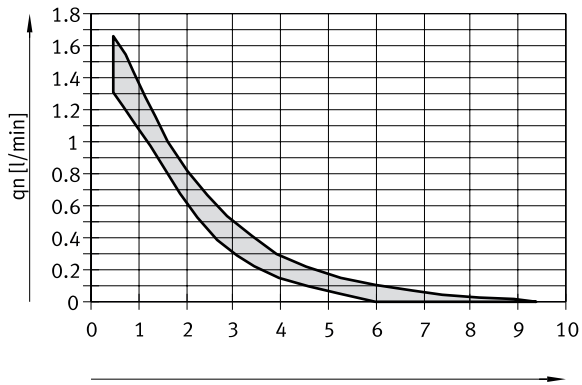
Standard flow rate  $q_N$  at 6 → 0 bar as a function of the throttle position  $n$  (size 160)

GRP-160-PK-4

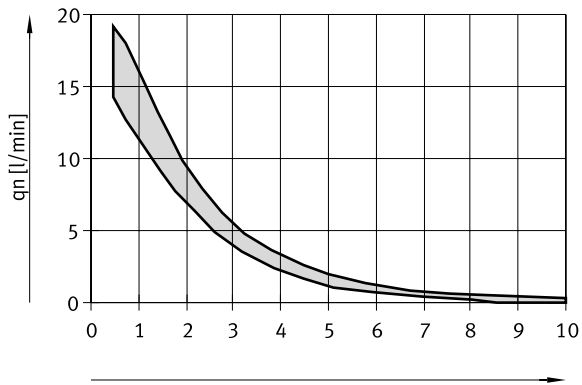


## Datasheet

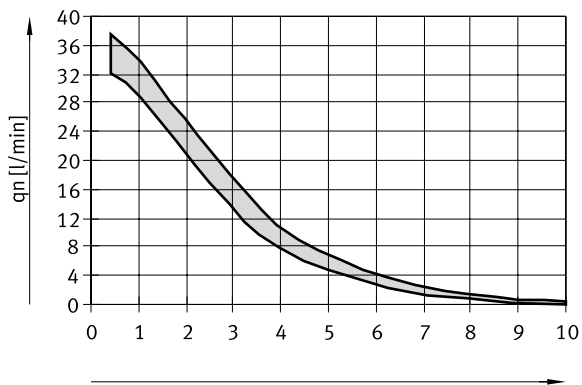
Standard flow rate  $q_N$  at 1 → 0 bar as a function of the throttle position  $n$  (size 10)



Standard flow rate  $q_N$  at 1 → 0 bar as a function of the throttle position  $n$  (size 70)



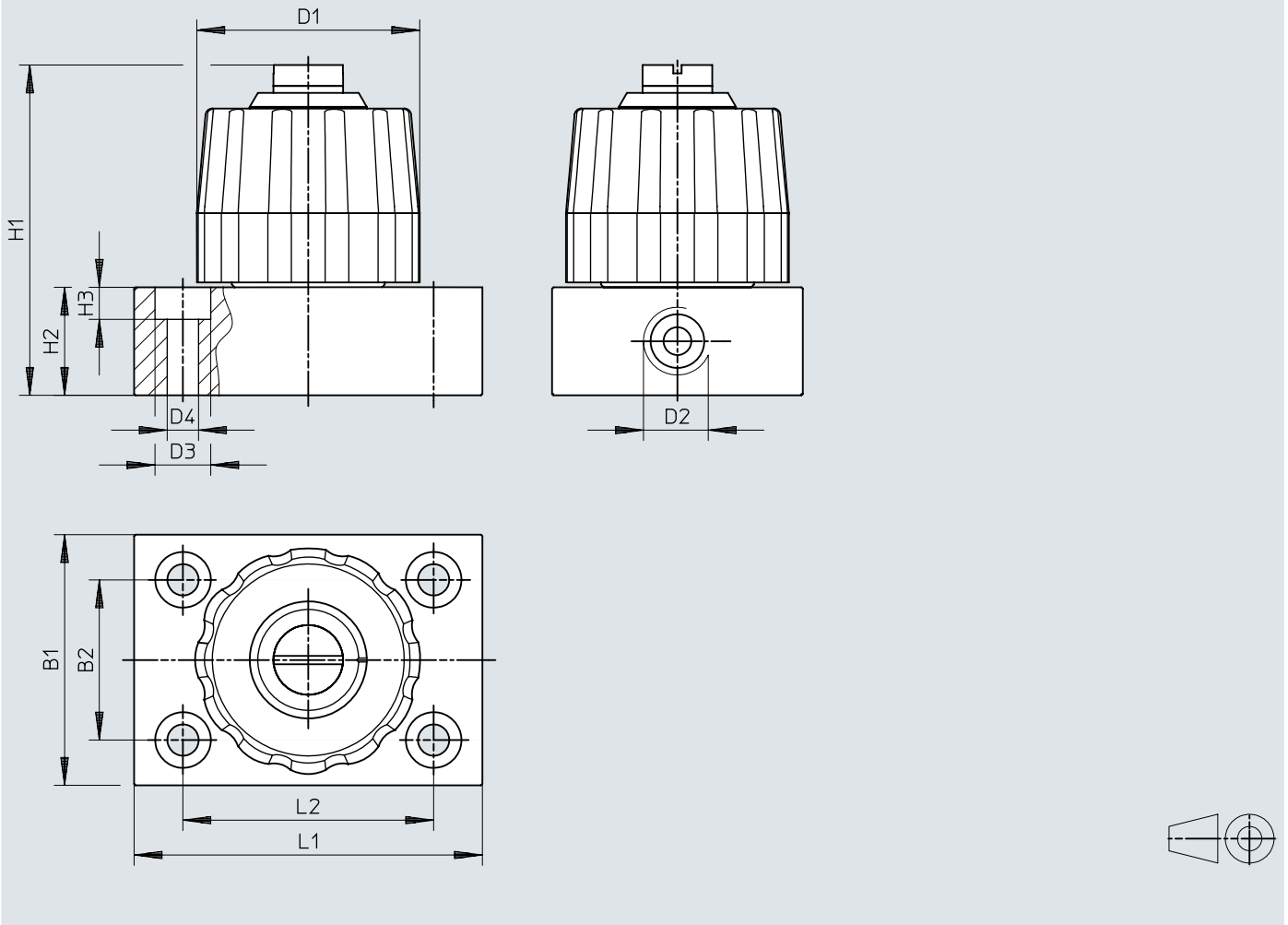
Standard flow rate  $q_N$  at 1 → 0 bar as a function of the throttle position  $n$  (size 160)



## Dimensions

Dimensions – GRP-...-AL

Download CAD data → [www.festo.com](http://www.festo.com)

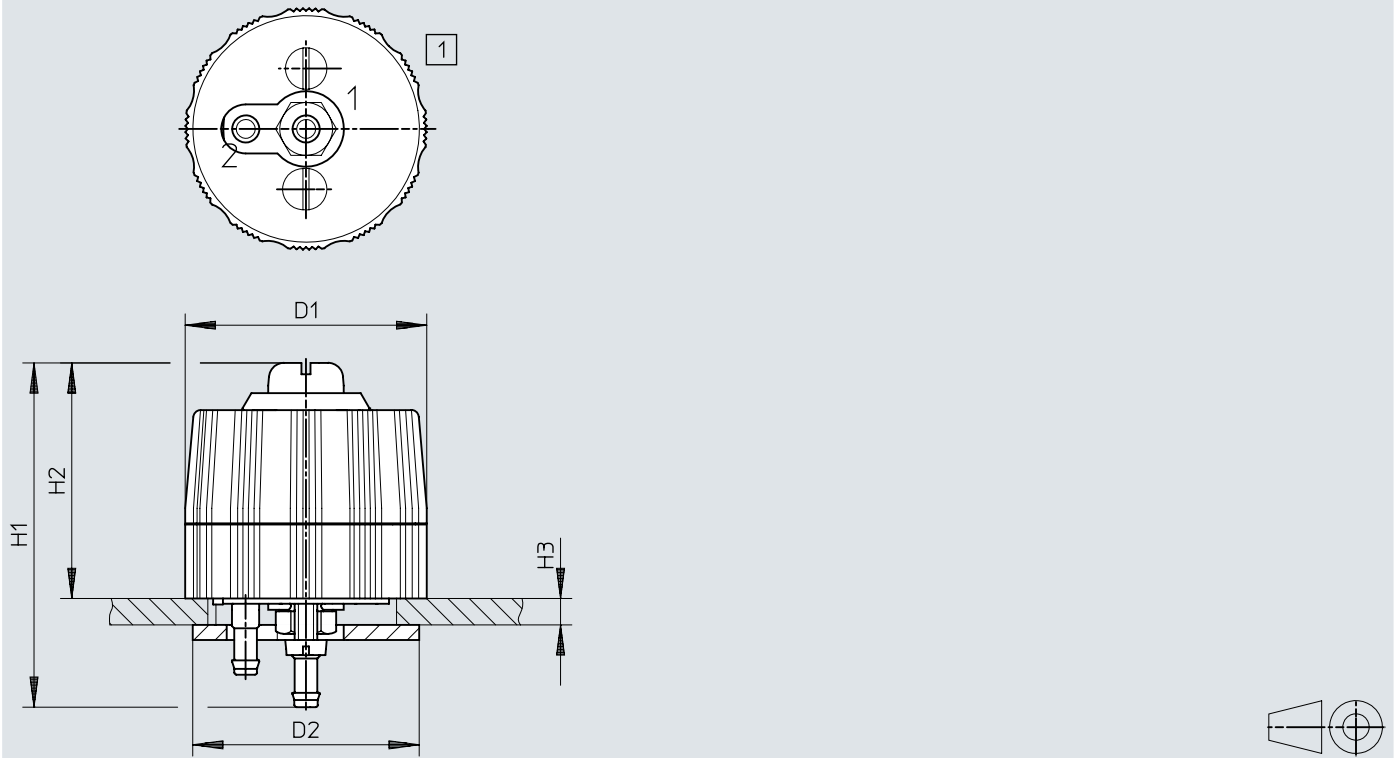


	D2	B1	B2	D1	D3	D4	H1	H2	H3	L1	L2
GRP-70-1/8-AL	G1/8	36	23	32	8	4,5	47,4	15,5	4,6	50	36
GRP-160-1/8-AL											

## Dimensions

Dimensions – GRP-...-PK

Download CAD data → [www.festo.com](http://www.festo.com)



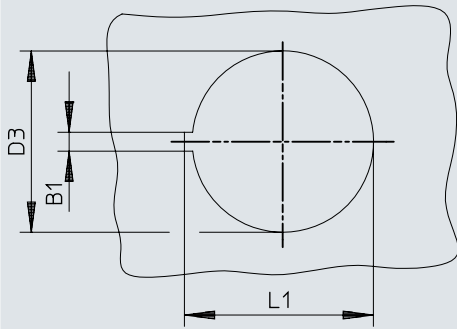
[1] Connections: 1 → 2 flow control direction; 2 → 1 non-return direction

	D1	D2	H1	H2	H3
GRP-10/70-PK-3	32	30	45,6	31,2	1,5 ... 10
GRP-160-PK-4			44,5		



## Dimensions

## Dimensions – Installation opening for front panel mounting

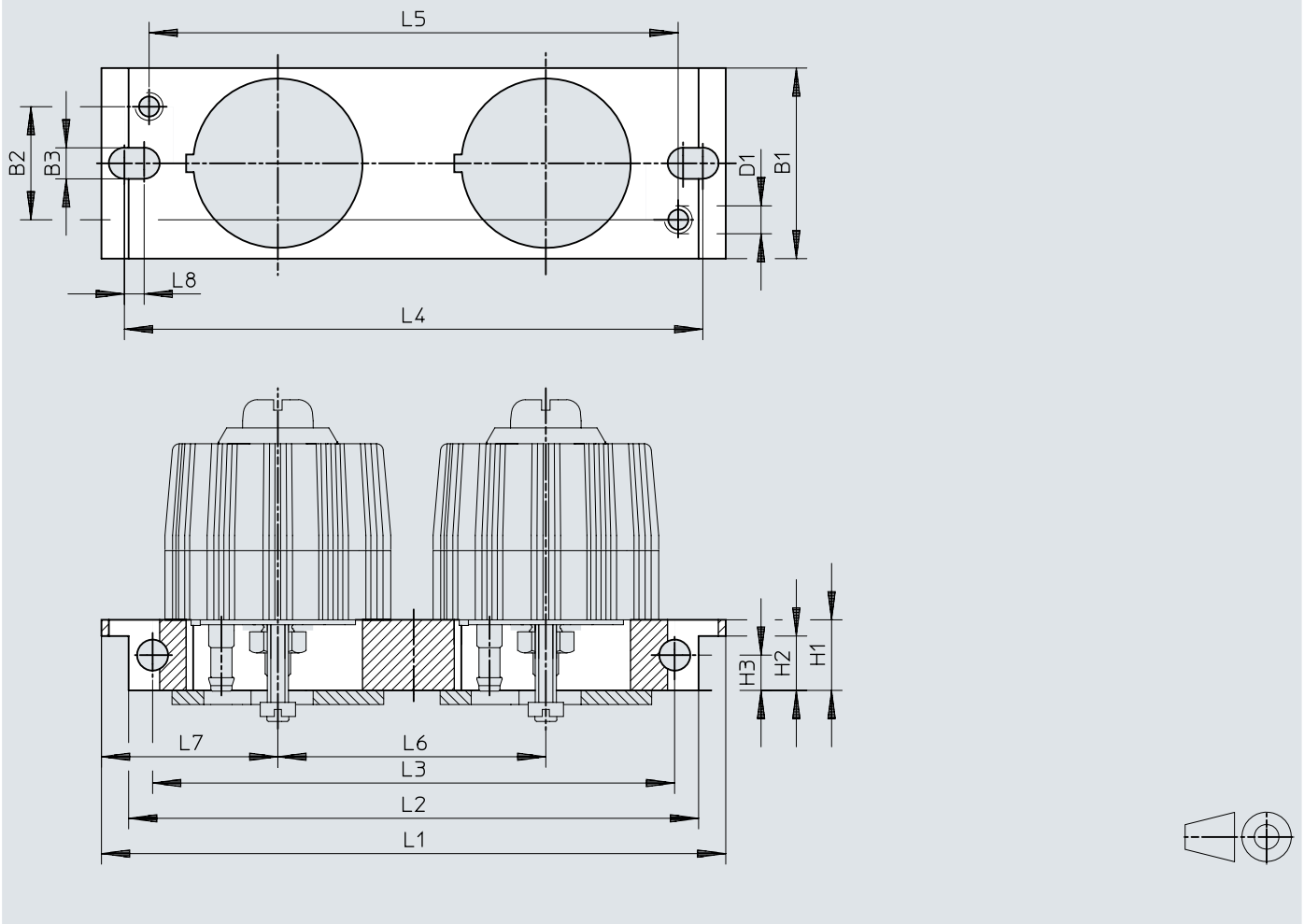
Download CAD data → [www.festo.com](http://www.festo.com)

	B1	D3	L1
GRP-10/70-PK-3	2,6	22	23,5
GRP-160-PK-4			

## Dimensions

Dimensions – Mounting plates APL-2N-GRP for precision one-way flow control valve GRP-...-PK

Download CAD data → [www.festo.com](http://www.festo.com)




	B1	B2	B3	D1	H1	H2	H3
APL-2N-GRP	26,8	16	4,4	M4	10	7,7	5
APL-2N-GRPX2							


	L1	L2	L3	L4	L5	L6	L7	L8
APL-2N-GRP	88,5	80,8	74	81	75	38	25	2,3
APL-2N-GRPX2								

## Ordering data

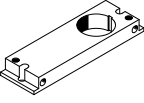
## Ordering data – GRP-...-AL

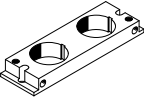
	Size	Pneumatic connection, port 1	Pneumatic connection, port 2	Product weight	Part no.	Type
	70	G1/8	G1/8	110 g	<b>542022</b>	<b>GRP-70-1/8-AL</b>
	160				<b>542023</b>	<b>GRP-160-1/8-AL</b>

## Ordering data – GRP-...-PK...

	Size	Pneumatic connection, port 1	Pneumatic connection, port 2	Product weight	Part no.	Type
	10	PK-3	PK-3	48 g	<b>12743</b>	<b>GRP-10-PK-3</b>
	70				<b>10802</b>	<b>GRP-70-PK-3</b>
	160	PK-4	PK-4		<b>12961</b>	<b>GRP-160-PK-4</b>

## Accessories

<b>Mounting plate APL-2N-GRP</b>				
	Design	Material plate	Part no.	Type
	1x mounting hole 22 mm	PA-reinforced	<b>10391</b>	<b>APL-2N-GRP</b>

<b>Mounting plate APL-2N-GRP2</b>				
	Design	Material plate	Part no.	Type
	2x mounting hole 22 mm		<b>10392</b>	<b>APL-2N-GRP2</b>