

## Precision throttle valve GRPO

**FESTO**



## Characteristics

### At a glance



Precisely adjustable flow valve with scaled rotary knob for in-line installation.

- Connections: threaded connection at both ends, push-in connector at both ends
- Metal design

### Diagrams

[Link](#)  [grpo](#)



The diagrams shown in this document are also available online. These can be used to display precise values.

## Type code

001	Series
GRPO	Precision 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
	Standard
AL	Aluminium

## Datasheet

### General technical data

Pneumatic connection, port 1	G1/8	PK-3	PK-4
Pneumatic connection, port 2	G1/8	PK-3	PK-4
Valve function	Flow control function		
Adjustment component	Rotary knob with scale		
Type of actuation	Manual		
Type of mounting	On sub-base	Front panel mounting	
Mounting position	optional		
Product weight	110 g	48 g	

### Operating and environmental conditions

Operating pressure	0 ... 8 bar		
Operating pressure from 2 to 1	0 ... 0.5 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		
Ambient temperature	-10 ... 50°C		
Media temperature	-10 ... 50°C		
Corrosion resistance class CRC <sup>1)</sup>	0 - No corrosion stress		

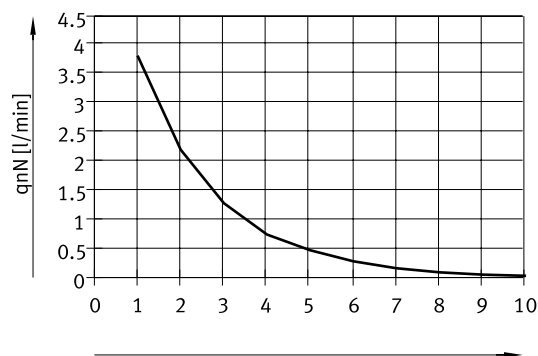
1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

### Materials

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

### Standard nominal flow rate $q_{nN}$ at 6 → 5 bar as a function of spindle rotations $n$ (Size 10)

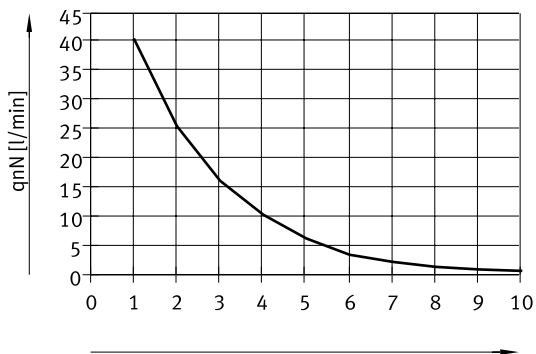
GRP-10-PK-3



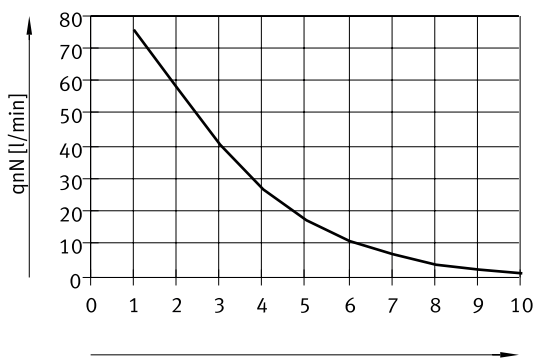
## Datasheet

Standard nominal flow rate  $q_{nN}$  at 6 → 5 bar as a function of spindle rotations  $n$  (Size 70)

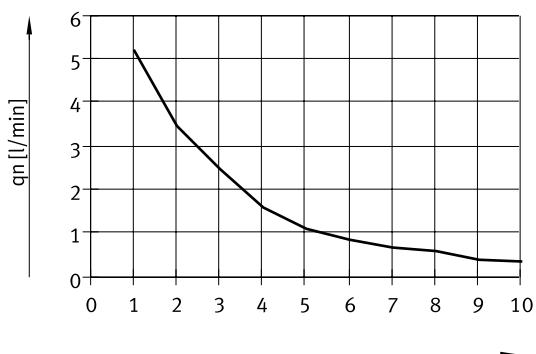
GRP-70-PK-3

Standard nominal flow rate  $q_{nN}$  at 6 → 5 bar as a function of spindle rotations  $n$  (Size 160)

GRP-160-PK-4

Standard flow rate  $q_n$  at 6 → 0 bar as a function of spindle rotations  $n$  (Size 10)

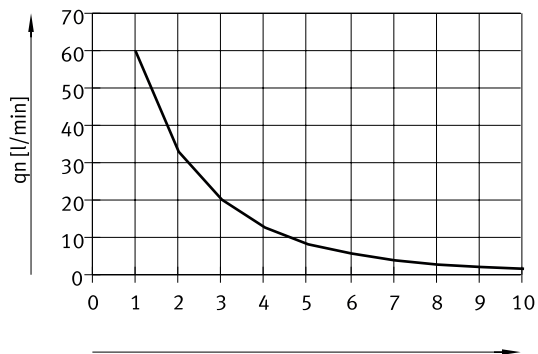
GRP-10-PK-3



## Datasheet

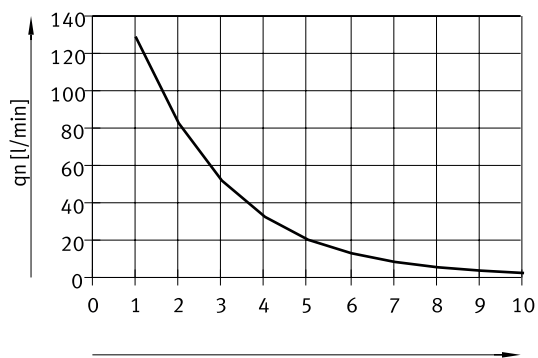
### Standard flow rate $q_n$ at 6 → 0 bar as a function of spindle rotations $n$ (Size 70)

GRP-70-PK-3

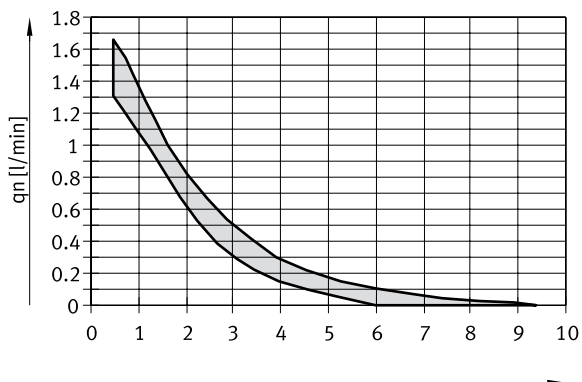


### Standard flow rate $q_n$ at 6 → 0 bar as a function of spindle rotations $n$ (Size 160)

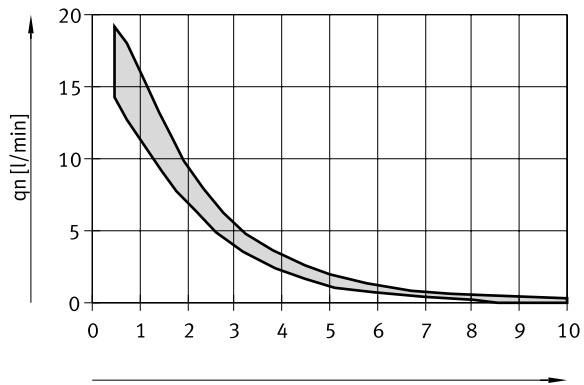
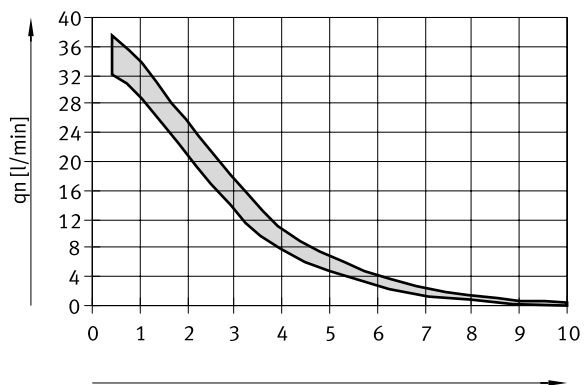
GRP-160-PK-4



### Standard flow rate $q_n$ at 1 → 0 bar as a function of spindle rotations $n$ (Size 10)



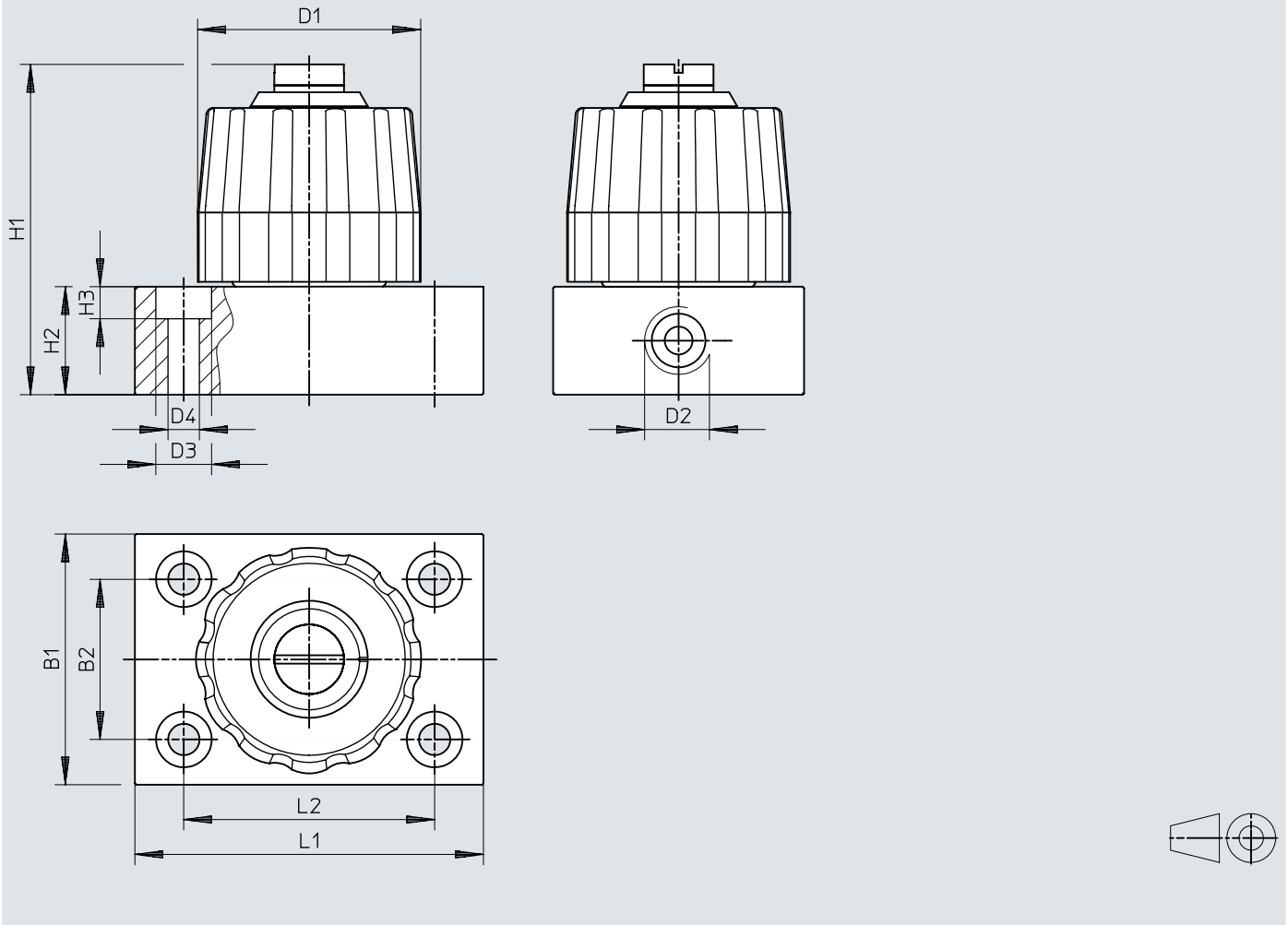
## Datasheet

Standard flow rate  $q_n$  at 1 → 0 bar as a function of spindle rotations  $n$  (Size 70)Standard flow rate  $q_n$  at 1 → 0 bar as a function of spindle rotations  $n$  (Size 160)

## Dimensions

Dimensions – GRPO-...-AL

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



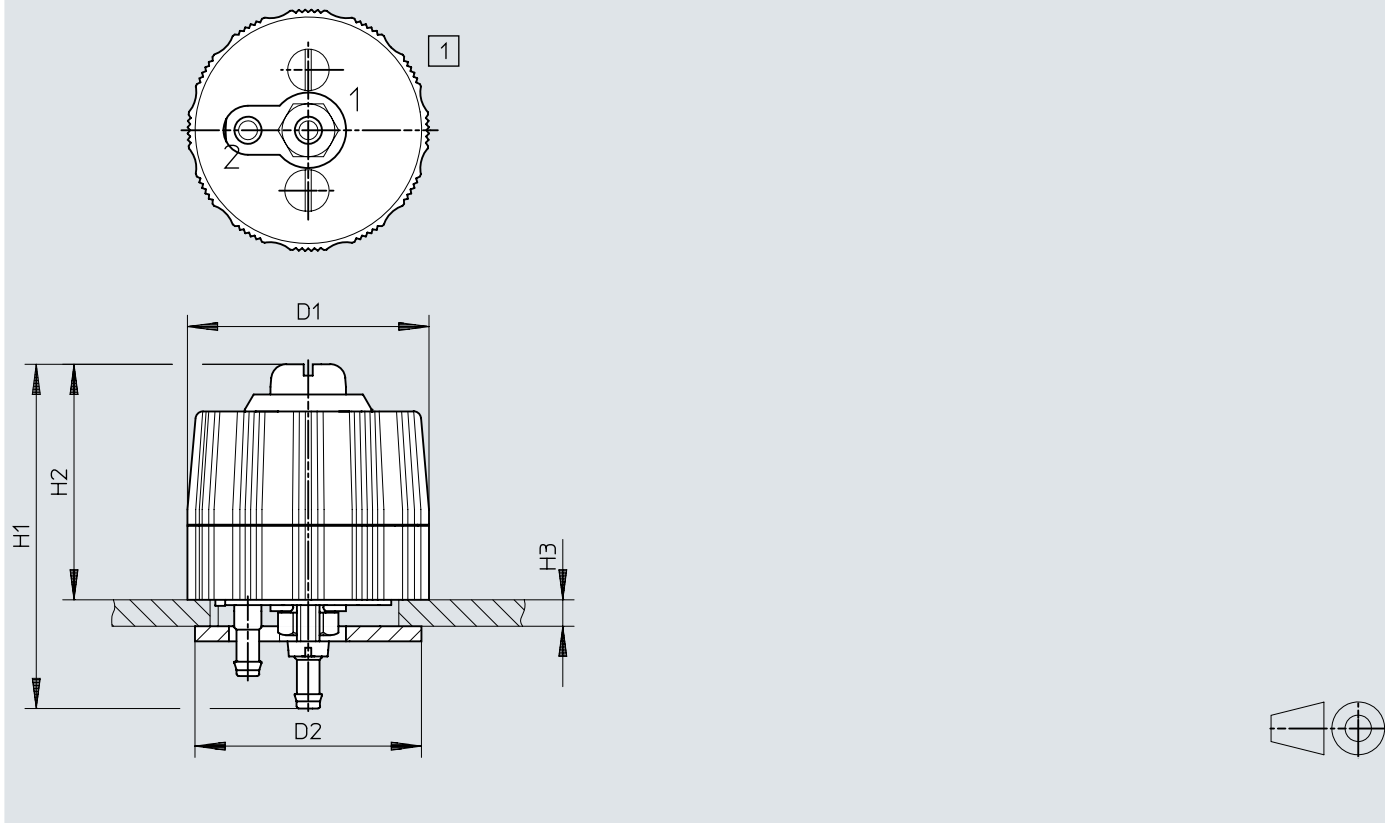
	D2	B1	B2	D1	D3	D4	H1	H2	H3	L1	L2
GRPO-70-1/8-AL	G1/8	36	23	32	8	4,5	47,4	15,5	4,6	50	36
GRPO-160-1/8-AL											



## Dimensions

Dimensions – GRPO-...-PK

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

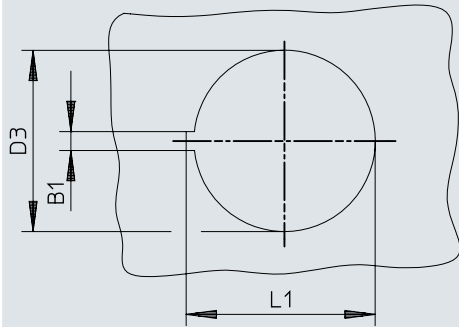


	D1	D2	H1	H2	H3
GRPO-10/70-PK-3	32	30	45,6	31,2	1,5 ... 10
GRPO-160-PK-4			44,5		

## Dimensions

**Dimensions – Installation opening for front panel mounting**

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

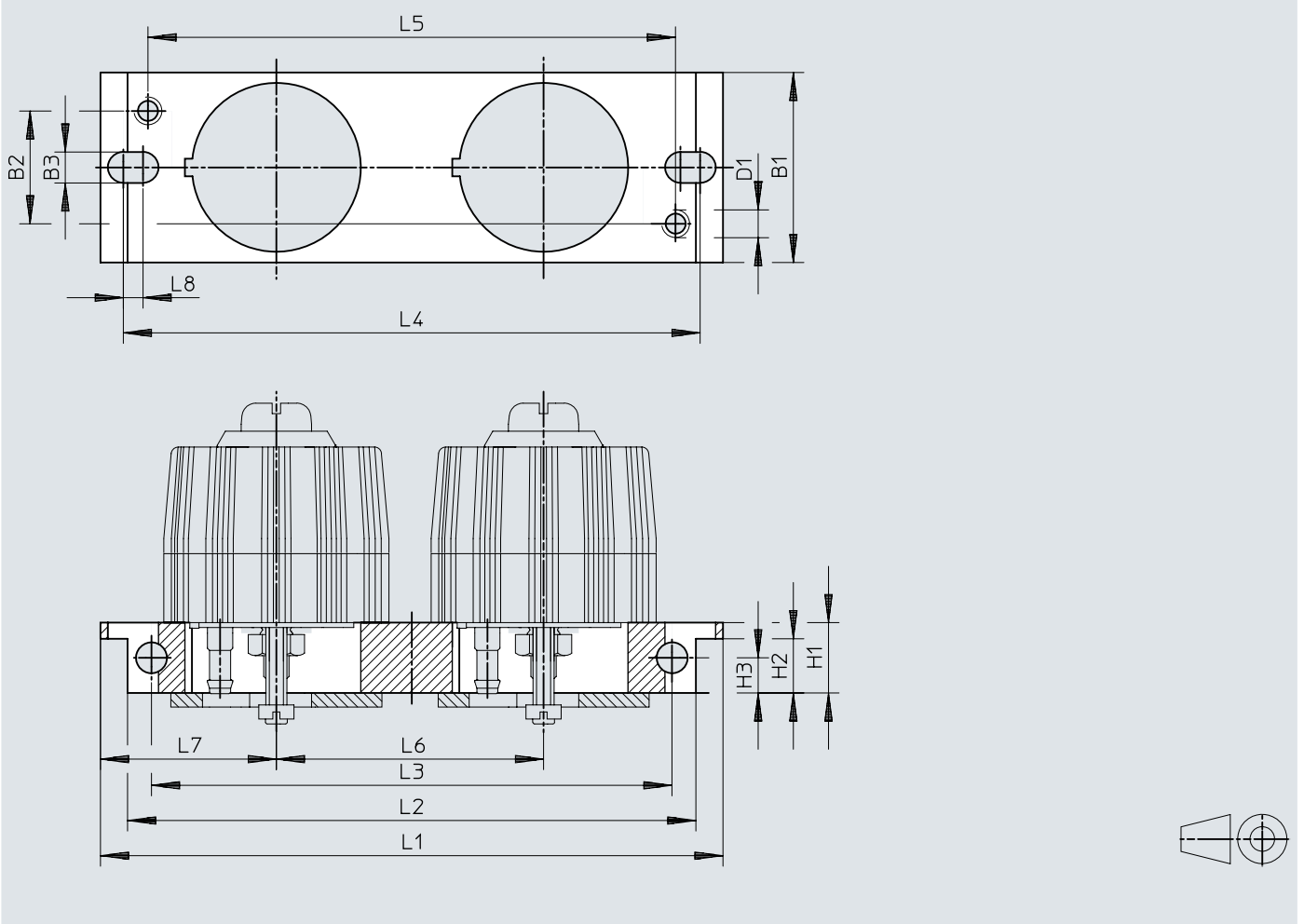


	B1	D3	L1
GRPO-1 0/70-PK-3	2,6	22	23,5
GRPO-160-PK-4			

## Dimensions

Dimensions – Mounting plates APL-2N-GRP for precision flow control valve  
GRPO-...-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 - GRPO-...-AL

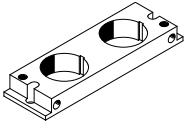
	Pneumatic connection, port 1	Standard nominal flow rate in flow control direction	Standard nominal flow rate in throttle direction for 0.1->0 MPa (1->0 bar, 14.5->0 psi)	Standard flow rate in flow control direction 0.6->0 MPa (6->0 bar, 87->0 psi)	Part no.	Type
	G1/8	40.7 l/min	19 l/min	60 l/min	<b>542024</b>	<b>GRPO-70-1/8-AL</b>
		75.8 l/min	38 l/min	129 l/min	<b>542025</b>	<b>GRPO-160-1/8-AL</b>

### Ordering data - GRPO-...-PK

	Pneumatic connection, port 1	Standard nominal flow rate in flow control direction	Standard nominal flow rate in throttle direction for 0.1->0 MPa (1->0 bar, 14.5->0 psi)	Standard flow rate in flow control direction 0.6->0 MPa (6->0 bar, 87->0 psi)	Part no.	Type
	PK-3	3.8 l/min	1.65 l/min	5.2 l/min	<b>13229</b>	<b>GRPO-10-PK-3</b>
		40.7 l/min	19 l/min	60 l/min	<b>10803</b>	<b>GRPO-70-PK-3</b>
		75.8 l/min	38 l/min	129 l/min	<b>13230</b>	<b>GRPO-160-PK-4</b>

## Accessories

Mounting plate APL-2N-GRP (for GRPO-...-PK)			
	Design	Part no.	Type
	1x mounting hole 22 mm	10391	APL-2N-GRP

Mounting plate APL-2N-GRPX2 (for GRPO-...-PK)			
	Design	Part no.	Type
	2x mounting hole 22 mm	10392	APL-2N-GRPX2