3 Way Proportional Pressure Control Valve pQ20

Nominal diameter 6
Direct operated poppet valve with integrated electronic pressure control

OBSOLETE DOCUMENT
Technical Reference Only

- **Combined valve and electronic control unit**
- **Minimal hysteresis**
- **Good linearity**
- **Highly responsive to signal change**
- **Fast response time**
- **No adjustment required – easily replaced**

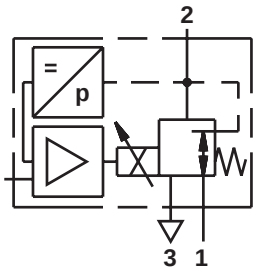
Technical Data

Medium:
Filtered air, lubricated or unlubricated
Filter:
40µm
Operation:
Proportional solenoid
Port Size:
G1/4
Connection:
Female thread
Flow direction:
Fixed
Operating Pressure p_1:
Upto 12 bar
Pressure adjustment p_2:
0 to 8 bar
Operating Temperature:
0°C to +40°C
Hysteresis:
< 1 (% p_2 max)
Repeatability:
< 1 (% p_2 max)
Linearity:
< 1 (% p_2 max)
Responce Sensitivity:
< 0,2 (% p_2 max)
Degree of Protection:
IP54*
Mounting:
Vertical
Materials:
Body – aluminium alloy
Seals – NBR

Ordering Information

To order, quote model number from table overleaf, e.g. **4089210.9000** for a valve with a pressure setting of 0 to 8 bar and a set point of 0 to 8V.

Symbol



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For your local Norgren Technical Sales Centre phone 0345 662266. For your local Norgren Distributor phone 0345 227777.
IMI Norgren Limited, PO Box 22, Eastern Avenue, Lichfield, Staffordshire WS13 6SB

General Information

Part Number	Pressure Adjustment Range p_2 (bar)	Definition Setting Pressure Set-point	Maximum Operating Pressure p_1 (bar)	Presetting of Set-point Analog	Digital (Bits)	Electrical Connection *	Weight (kg)	Remarks **
4089210.9000	0 to 8	1 bar/V	12	0 to 8V (0 to 16mA)†	-	Connector 6-pole+PE DIN 43 651	1,2	For flow volumes up to 1 l at outlet A
4089211.9000	0 to 8	0,039 bar/bit	12	-	8	Connector 15-pole MIL-C-26482	1,2	For flow volumes up to 1 l at outlet A
4089212.9000	0 to 8	0,079 bar/bit	12	-	7 + memory function	Connector 15-pole MIL-C-26482	1,2	For flow volumes up to 1 l at outlet A
4089213.9000	0 to 8	1 bar/V	12	0 to 8V (0 to 16mA)†	-	Connector 6-pole+PE DIN 43 651	1,2	Continuous air consumption
4089215.9000	0 to 8	1 bar/V	12	0 to 8V (0 to 16mA)†	-	Connector 6-pole+PE DIN 43 651	1,2	For flow volumes >1 l
4089218.9000	0 to 8	0,039 bar/bit	12	-	8	Connector 15-pole MIL-C-26482	1,2	Continuous air consumption
4089219.9000	0 to 8	0,079 bar/bit	12	-	7 + memory function	Connector 15-pole MIL-C-26482	1,2	Continuous air consumption
4089222.9000	0 to 8	1 bar/1,6mA	12	4-16,8mA	-	Connector 6-pole+PE DIN 43 651	1,2	For flow Volumes up to 1 l at outlet A
4089229.9000	0 to 2	1 bar/8mA	12	20mA	-	Connector 6-pole+PE DIN 43 651	1,2	For flow Volumes up to 1 l at outlet A

* See Accessories table below
** Electronic controller especially optimised for indicated function
† With 500Ω resistor

Electrical Information

Supply

Supply voltage U_B (V)	24 ± 4
Residual ripple (%)	10
Current draw I_B (A)	1,4

Inputs

Analog set points

Voltage Signal	U_{IN} (V)	0 to 8
Input Resistance	R_{IN} (kΩ)	200
Current Signal	I_{IN} (mA)	0 to 16 or 4 to 16,8
Input Load	(Ω)	500

Digital set points

Information Inputs (parallel) bits		8 or 7 + 1 memory function
Logic Level	"L" * (V)	0 to 3,8
Logic Level	"H" (V)	12 to 28
Input Current	(mA)	1

* Input open ≙ logic level 'L'

Outputs

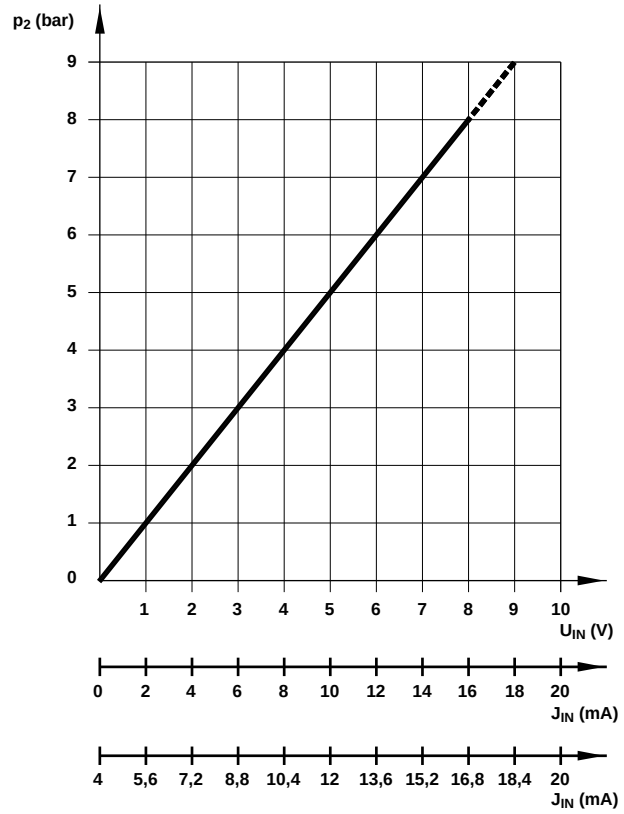
Voltage Signal of the Pneumatic Outlet Pressure Definition	U_{OUT} (V)	0 to 8 1 V/bar
Max Output Current	I_{OUT} (mA)	1
Voltage Output for External Set-point Adjuster	U (V)	15 ± 1
Max output current	I (mA)	5

Accessories

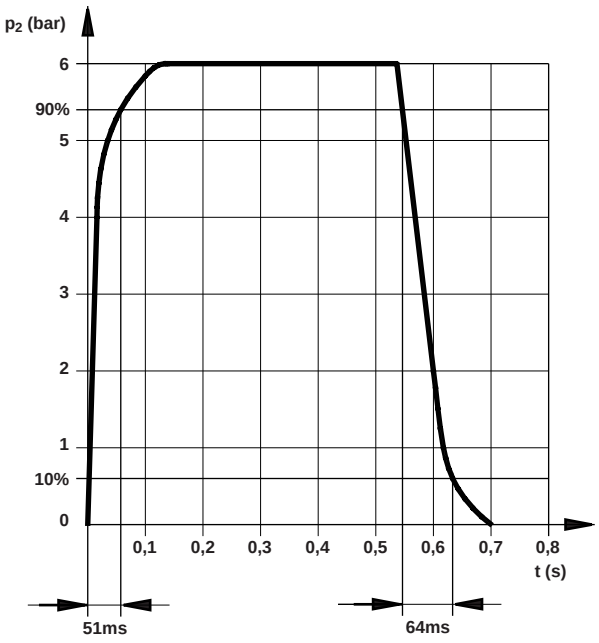
Part Number	Description	Type
0660689	Connector	6-pin + PE acc. to DIN 43651
0680683	Connector	15-pin MIL-C-26482

Characteristics

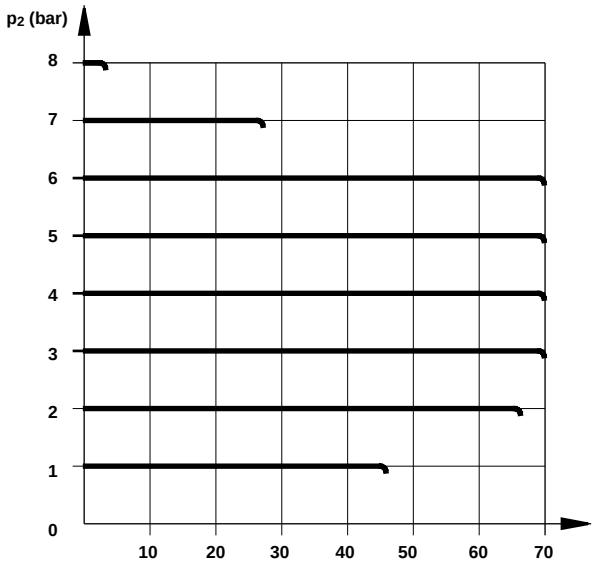
Static characteristics



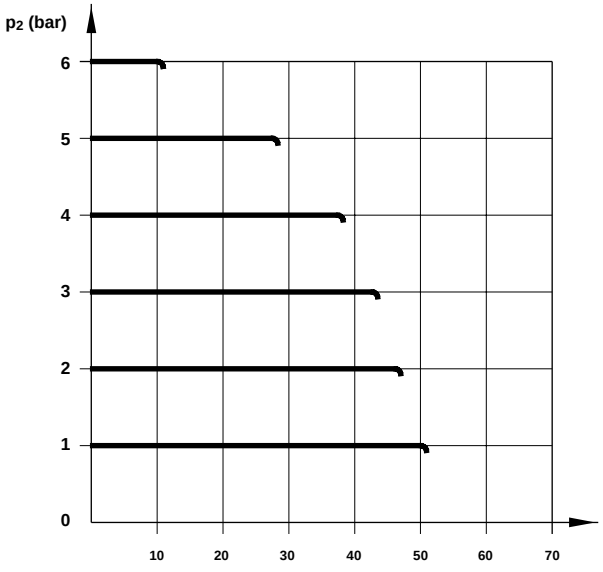
Dynamic characteristics
Step function



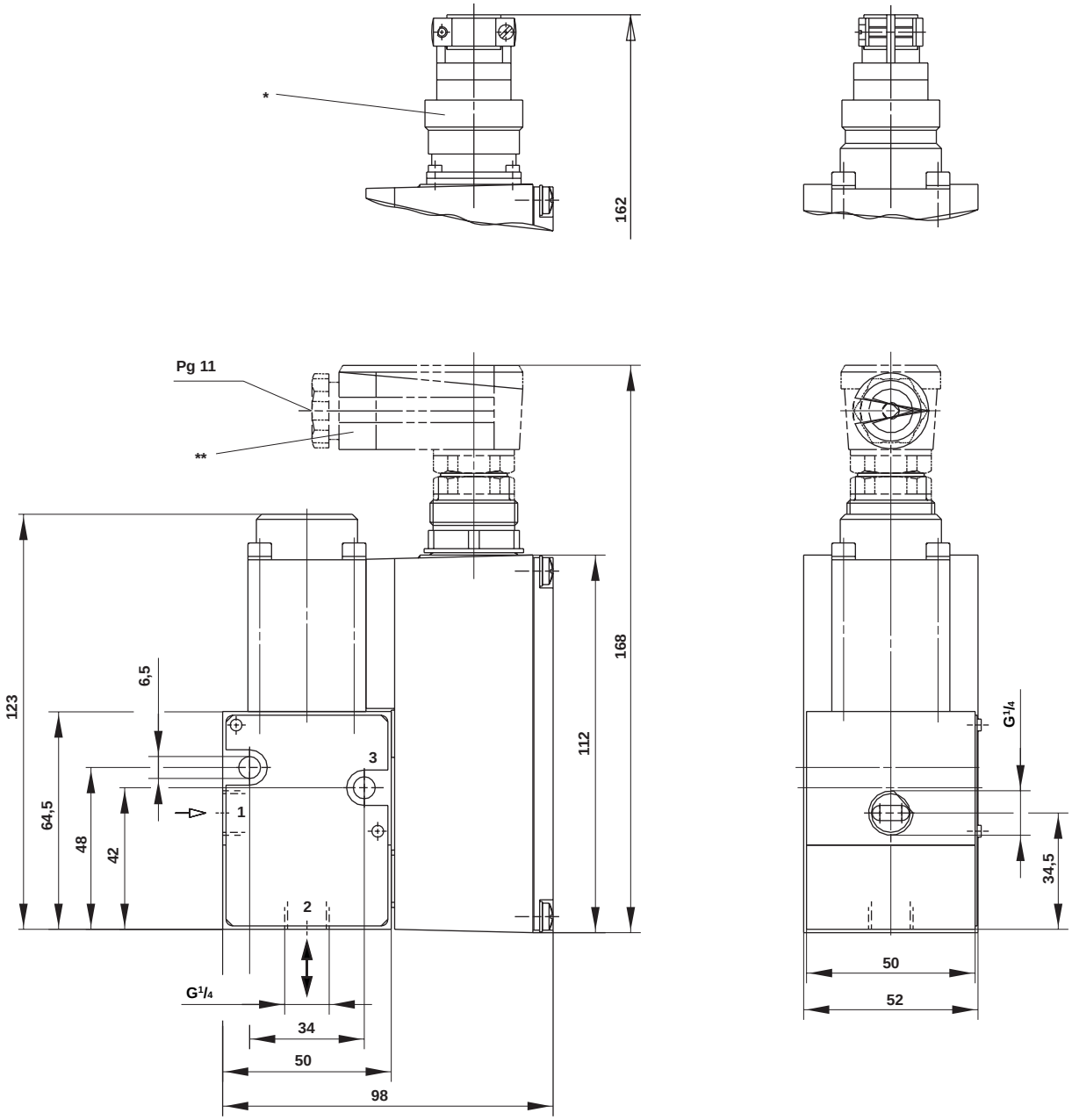
Flow characteristics
Operating pressure (p_1) at 12 bar



Flow characteristics
Operating pressure (p_2) at 6 bar



General dimensions



Warning

These products are intended for use in industrial systems only. Do not use these products where *pressures* and *temperatures* can exceed those listed under **'Technical Data'.**

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult Norgren.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such a failure.

System designers must provide a warning to end users in the system instruction manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products where applicable.