

## V5013E

### EXTERNAL THREADED END-CONNECTION LINEAR VALVE PN16

#### PRODUCT DATA



#### FEATURES

- Brass body with external threaded end connections
- Low seat leakage rate
- Self-adjusting packing
- Accurate positioning to ensure state-of-the-art temperature control
- Directly-coupled electric and pneumatic actuators for easy mounting
- Constant total flow throughout full plug travel

#### SPECIFICATIONS

Action:	Stem up to close port A-AB
Nominal pressure rating:	PN16
Flow characteristic:	equal percentage: port A-AB linear: port B-AB
Rangeability:	50:1
Leakage rate:	≤0.05% of $k_{vs}$
Stroke:	20 mm
Valve body:	
Pipe connections:	External threading as per ISO228
Material:	Brass
Dimensions:	See Fig. 1 on page 4
Trim:	
Seat:	DN15: stainless steel DN20...50: body integrated
Plug:	Brass
Stem:	Stainless steel
Packing:	Spring-loaded carbon fiber reinforced PTFE V-rings
Medium temperature and pressure:	
Water and steam	2 to 120 °C max. 1600 kPa 120 to 170 °C max. 1490 kPa
Max. temperature differential in alternating hot/cold water use:	60 K

#### APPLICATION

These three-port mixing valves are used for modulating control of hot or chilled water in heating, ventilation and air conditioning systems and can be operated by electric linear actuators as ML6420/6425, ML7420/7425, ML6421/7421 or by pneumatic actuators MP953.

## SIZES AND FLOW CAPACITIES

Table 1. Size and flow capacity (in m<sup>3</sup>/h)

order number	valve size	k <sub>VS</sub> m <sup>3</sup> /h
V5013E1063	DN15	2.5
V5013E1071	DN15	4
V5013E1089	DN20	6.3
V5013E1097	DN25	10
V5013E1105	DN32	16
V5013E1113	DN40	25
V5013E1121	DN50	40

## INSTALLATION

Water should meet VDI2035 requirements.

Do not install valve with stem below the horizontal.

Fluid flow must correspond with the arrow direction on the valve body.

The installation of a strainer is strongly recommended.

The valve should be installed as stress-free as possible.

## SPARE PARTS

Repair packing kit, DN15...50: Order number 0901787

## CLOSE-OFF PRESSURE RATINGS

### Electric Actuators

Table 2. Close-off pressure ratings (in kPa) of electric actuators

actuator		valve size					
type	force	DN15	DN20	DN25	DN32	DN40	DN50
ML6420 / ML6425 ML7420 / ML7425	600 N	1600	1600	1000	700	460	260
M6421 / M7421	1800 N	-	-	1600	1600	1500	850


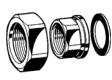
### Pneumatic Actuators MP953

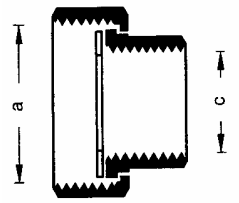
Table 3. Close-off pressure ratings (in kPa) of pneumatic actuators MP953

actuator				valve size						
type	spring range	air pressure	closed seat	DN15	DN20	DN25	DN32	DN40	DN50	
MP953C5001	14...48 kPa	0 kPa 115 kPa	upper	150	--	--	--	--	--	
MP953C5027 MP953A5005	27...76 kPa			1600	--	--	--	--	--	--
				800	310	180	90	30	--	
MP953C5019	55...83 kPa			1150	530	350	200	100	--	
				1600	950	620	370	220	--	
MP953C5068	14...48 kPa			860	380	240	130	60	--	
			1550	650	420	240	130	50		
MP953C5084 MP953A5039	27...76 kPa		1600	1600	1600	1600	1130	630		
			1600	1550	1030	630	400	200		
MP953C5076	55...83 kPa		1600	1600	1500	950	600	320		
			1600	1600	1600	1470	970	520		
MP953D5025	27...76 kPa		1600	1600	1190	750	460	250		
			1600	840	570	340	200	90		
MP953D5009 MP953B5003	55...83 kPa		1600	1480	990	600	370	190		
		1600	1050	720	440	260	130			
			lower	1600	1490	1490	920	600	320	

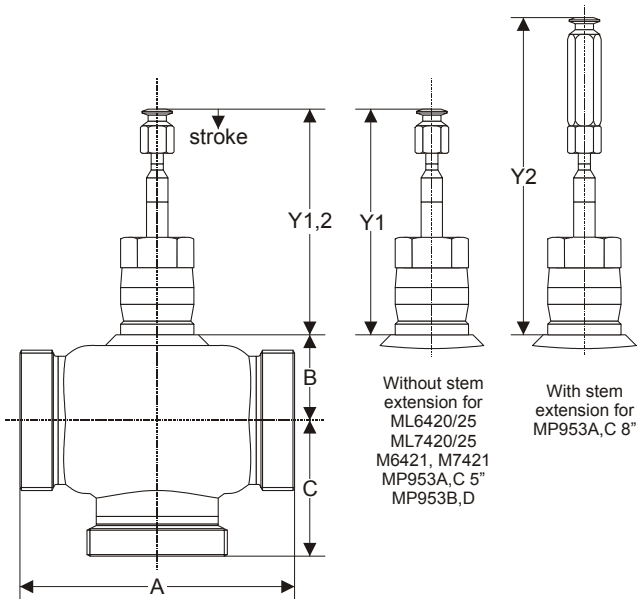
## ACCESSORIES

Valves V5013E require the use of three connection sets.

connection	pipe size	DN	order number	connection set		description
internal thread	G 1/2"	15	AC-15TF			consisting of 1 union nut, 1 tailpiece, and 1 gasket
	G 3/4"	20	AC-20TF			
	G 1"	25	AC-25TF			
	G 1-1/4"	32	AC-32TF			
	G 1-1/2"	40	AC-40TF			
	G 2"	50	AC-50TF			

dimensions of connection sets			order number
	a	c	
	G 1-1/8"	G 1/2"	AC-15TF
	G 1-1/4"	G 3/4"	AC-20TF
	G 1-1/2"	G 1"	AC-25TF
	G 2"	G 1-1/4"	AC-32TF
	G 2-1/4"	G 1-1/2"	AC-40TF
	G 2-3/4"	G 2"	AC-50TF

# DIMENSIONS



**Fig. 1. Dimensions**

**Table 4. Dimensions (in mm)**

valve size	A	B	C	Y <sub>1</sub>	Y <sub>2</sub>
				stem up	
DN15	80	40	55	107	151
DN20	90	40	55		
DN25	110	40	55		
DN32	120	40	55		
DN40	130	40	60		
DN50	150	40	65		

For actuator dimensions, please refer to:

- ML6420A3072 ..... EN0B-0411GE51
- ML6420A / ML6425A,B ..... EN0B-0351GE51
- ML7420 / ML7425 ..... EN0B-0624GE02
- M6421 ..... EN0B-0414GE51
- M7421 ..... EN0B-0416GE51
- MP953 ..... EN0B-0552GE51

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Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Ecublens, Route du Bois 37, Switzerland by its Authorized Representative:

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Subject to change without notice. Printed in Germany  
 EN0B-0446GE51 R0407

**DIN EN  
 ISO 9001**