



**DIVISION TUBERIAS  
SOLUCIONES INTEGRALES**



**FIP**  
**INSIDE**



# Valves Handbook



**FORMATURA**  
**INIEZIONE**  
**POLIMERI**

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# Valves Handbook

Valves Handbook is a new tool that resumes all FIP valve range.

All types and versions available in a glance as well as their specific accessories and main technical details such Nominal Working Pressure and Kv factors.

This handbook is intended as practical quick reference. It does not substitute FIP catalogues which are the official reference for the products data.

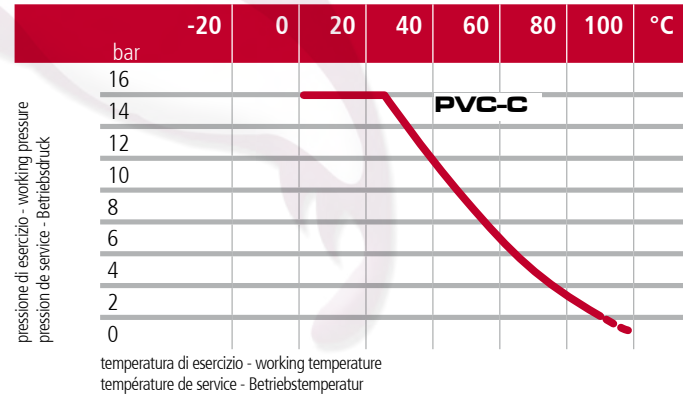
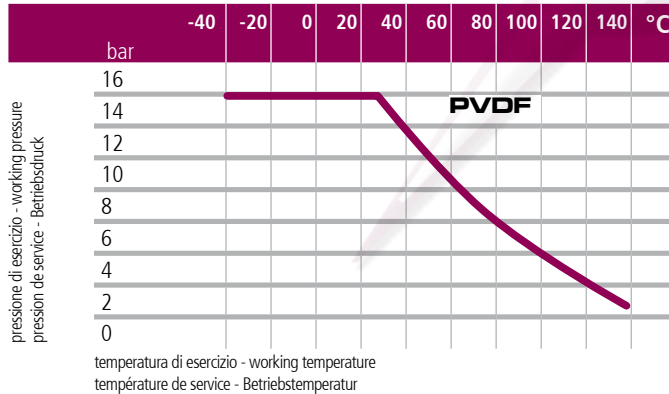
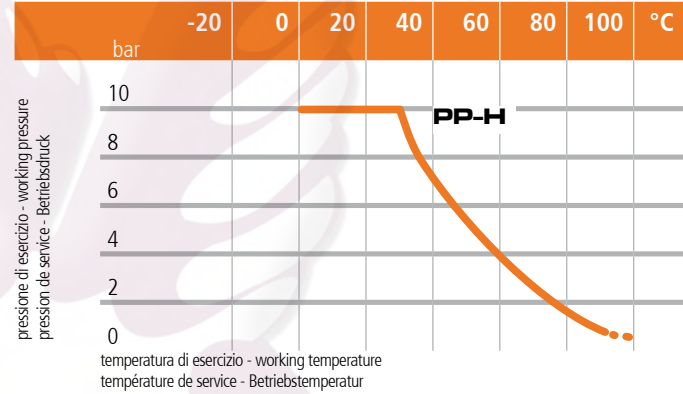
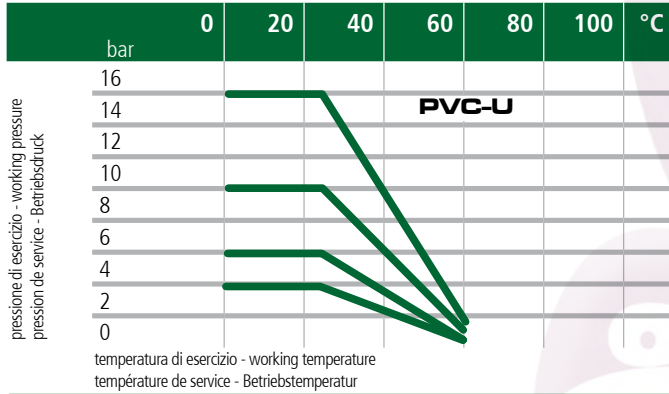


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## LEGENDA

<b>d</b>	Nominal outside diameter of the pipe in mm
<b>DN</b>	Nominal internal diameter in mm
<b>PN</b>	Nominal pressure (max working pressure at 20°C - water)
<b>PVC-U</b>	Unplasticized polyvinylchloride
<b>PP-H</b>	Homopolymer polypropylene MRS-10
<b>PVC-C</b>	Chlorinated polyvinylchloride
<b>PVDF</b>	Polyvinylidene fluoride MRS-25
<b>ABS</b>	Acrylonitrile Butadiene Styrene
<b>PE</b>	Polyethylene
<b>EPDM</b>	Ethylene propylene rubber
<b>FPM</b>	Vinylidene fluoride rubber
<b>PTFE</b>	Polytetrafluoroethylene
<b>NBR</b>	Butadiene-acrylonitrile rubber
<b>CR</b>	Chloroprene rubber
<b>Kv100 [l/min]</b>	Number of litres per minute of water, at a temperature of 20°C, that will flow through a valve with 1bar differential pressure, at a stated opening rate. The Kv100 values shown in the tables are calculated with the valve fully open.

Pressure / Temperature rating for water and harmless fluids to which the material is resistant.  
In the other cases a reduction of the rated PN is required.



# VKD



## 2-Way Ball Valve

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Ball seats material

PTFE

### Seals materials

EPDM  
FPM

### Accessories

Dual Block System (supplied as standard)  
Handle Block (SHK)  
Actuation module (Power Quick)  
Mounting Plate (PMKD)  
Stem Extension (PSKD)  
Limit Switches box (MSKD)  
End connections (Butt Weld.) in PE (CVDE)  
End connections (Butt Weld.) in PP-H (CVDM)

d [mm]		16	20	25	32	40	50	63	75	90	110	
DN [mm]		10	15	20	25	32	40	50	65	80	100	
SIZE [inch]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	Type
ISO-DIN metric series plain female ends	PVC-U	●	●	●	●	●	●	●	●	●	●	VKDIV
	PP-H	●	●	●	●	●	●	●	●	●	●	VKDIM
	PVDF	●	●	●	●	●	●	●	●	●	●	VKDIF
	PVC-C	●	●	●	●	●	●	●	●	●	●	VKDIC
ISO-DIN metric series plain male ends	PVC-U	●	●	●	●	●	●	●	●	●	●	VKDDV
	PP-H	n.a.	●	●	●	●	●	●	●	●	●	VKDDM
	PVDF	n.a.	●	●	●	●	●	●	●	●	●	VKDDF
	PVC-C	n.a.	●	●	●	●	●	●	●	●	●	VKDDC
BSP series threaded female ends	PVC-U	●	●	●	●	●	●	●	●	●	●	VKDFV
	PP-H	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	VKDFM
	PVC-C	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	VKDFC
BS socket welding	PVC-U	●	●	●	●	●	●	●	●	●	●	VKDLV
ASTM series plain female ends	PVC-U	●	●	●	●	●	●	●	●	●	●	VKDAV
	PVC-C	●	●	●	●	●	●	●	●	●	●	VKDAC
NPT series threaded female ends	PVC-U	●	●	●	●	●	●	●	●	●	●	VKDNV
	PVC-C	●	●	●	●	●	●	●	●	●	●	VKDNC
JIS series plain female ends	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VKDJV
JIS series threaded female ends	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VKDGJ
FLANGED ISO-DIN	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VKDOV
	PP-H	n.a.	●	●	●	●	●	●	●	●	●	VKDOM
	PVDF	n.a.	●	●	●	●	●	●	●	●	●	VKDOF
	PVC-C	n.a.	●	●	●	●	●	●	●	●	●	VKDOC
FLANGED ANSI	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VKDOAV
	PP-H	n.a.	●	●	●	●	●	●	●	●	●	VKDOAM
	PVDF	n.a.	●	●	●	●	●	●	●	●	●	VKDOAF
	PVC-C	n.a.	●	●	●	●	●	●	●	●	●	VKDOAC
FLANGED JIS	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VKDOJV
PN [bar] 16 bar = 232 psi 10 bar = 150 psi	PVC-U	16	16	16	16	16	16	16	16	16	16	
	PP-H	10	10	10	10	10	10	10	10	10	10	
	PVDF	16	16	16	16	16	16	16	16	16	16	
	PVC-C	16	16	16	16	16	16	16	16	16	16	
Kv100 [l/min]		80	200	385	770	1100	1750	3400	5250	7100	9500	

Notes: n.a.= not available, o.r.= on request (not in standard production)

# TKD



## 3-Way Ball Valve

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Ball seats material

PTFE

### Seals materials

EPDM  
FPM

### Functions

T - bore  
L - bore

### Accessories

Dual Block System (supplied as standard)  
Handle Block (SHKD)  
Actuation module (Power Quick)  
Mounting Plate (PMKD)  
Stem Extension (PSKD)  
Limit Switches box (MSKD)  
End connections (Butt Weld.) in PE (CVDE)  
End connections (Butt Weld.) in PP-H (CVDMM)  
Handle stop 90° or 180° (HSTKD090 or HSTKD180)

d [mm]		16	20	25	32	40	50	63	
DN [mm]		10	15	20	25	32	40	50	
SIZE [inch]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	Type
ISO-DIN metric series plain female ends	PVC-U	●	●	●	●	●	●	●	TKDIV
	PP-H	●	●	●	●	●	●	●	TKDIM
	PVDF	●	●	●	●	●	●	●	TKDIF
	PVC-C	●	●	●	●	●	●	●	TKDIC
ISO-DIN metric series plain male ends	PVC-U	●	●	●	●	●	●	●	TKDDV
	PP-H	n.a.	●	●	●	●	●	●	TKDDM
	PVDF	n.a.	●	●	●	●	●	●	TKDDF
	PVC-C	n.a.	●	●	●	●	●	●	TKDDC
BSP series threaded female ends	PVC-U	●	●	●	●	●	●	●	TKDFV
	PP-H	●	●	●	●	●	●	●	TKDFM
BS socket welding	PVC-U	●	●	●	●	●	●	●	TKDLV
ASTM series plain female ends	PVC-U	●	●	●	●	●	●	●	TKDAV
	PVC-C	●	●	●	●	●	●	●	TKDAC
NPT series threaded female ends	PVC-U	●	●	●	●	●	●	●	TKDNC
	PVC-C	●	●	●	●	●	●	●	TKDNC
JIS series plain female ends	PVC-U	n.a.	●	●	●	●	●	●	TKDJV
JIS series threaded female ends	PVC-U	n.a.	●	●	●	●	●	●	TKDGV
FLANGED ISO-DIN	PVC-U	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	TKDOV
	PP-H	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	TKDOM
	PVDF	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	TKDOF
	PVC-C	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	TKDOC
FLANGED ANSI	PVC-U	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	TKDOAV
	PP-H	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	TKDOAM
	PVDF	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	TKDOAF
	PVC-C	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	TKDOAC
FLANGED JIS	PVC-U	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	TKDOJV
PN [bar] 16 bar = 232 psi 10 bar = 150 psi	PVC-U	16	16	16	16	16	16	16	
	PP-H	10	10	10	10	10	10	10	
	PVDF	16	16	16	16	16	16	16	
	PVC-C	16	16	16	16	16	16	16	

Notes: n.a.= not available, o.r.= on request (not in standard production)



**VE**



## 2-Way Ball Valve

Body material

PVC-U

Ball seats material

PE

Seals material

CR

Accessories

End connections (Butt Weld.) in PE (CVDE)

Hose adaptor (CVPV) [DN40-50 only]

Threaded male ends (CVRV) [DN40-50 only]

d [mm]		16	20	25	32	40	50	63	75	90	110	
DN [mm]		10	15	20	25	32	40	50	65	80	100	
SIZE [inch]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	<b>Type</b>
	<b>PVC-U</b>	●	●	●	●	●	●	●	●	●	●	<b>VEIV</b>
ISO-DIN metric series plain female ends												
	<b>PVC-U</b>	●	●	●	●	●	●	●	●	●	●	<b>VEFV</b>
BSP series threaded female ends												
	<b>PVC-U</b>	n.a.	●	●	●	●	●	●	●	●	●	<b>VELV</b>
BS socket welding												
	<b>PVC-U</b>	n.a.	●	●	●	●	●	●	●	●	●	<b>VEAV</b>
ASTM series plain female ends												
	<b>PVC-U</b>	n.a.	●	●	●	●	●	●	●	●	●	<b>VENV</b>
NPT series threaded female ends												
	<b>PVC-U</b>	n.a.	●	●	●	●	●	●	●	●	●	<b>VEJV</b>
JIS series plain female ends												
	<b>PVC-U</b>	n.a.	●	●	●	●	●	●	●	●	●	<b>VEGV</b>
JIS series threaded female ends												
	<b>PVC-U</b>	16	16	16	16	16	16	10	10	6		
PN [bar] 16 bar = 232 psi 10 bar = 150 psi 6 bar = 87 psi												
Kv100 [l/min]		80	200	385	770	1100	1750	3400	5250	7100	9500	

Notes: n.a.= not available, o.r.= on request (not in standard production)

**VX**



## 2-Way Ball Valve

### Body materials

PVC-U  
PVC-C

### Ball seats material

PTFE

### Seals materials

EPDM  
FPM

### Accessories

End connections (Butt Weld.) in PE (CVDE)

d [mm]		16	20	25	32	40	50	63	75	90	110	
DN [mm]		10	15	20	25	32	40	50	65	80	100	
SIZE [inch]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	Type
ISO-DIN metric series plain female ends	PVC-U	●	●	●	●	●	●	●	●	●	●	VXIV
	PVC-C	●	●	●	●	●	●	●	●	●	●	VXIC
BSP series threaded female ends	PVC-U	●	●	●	●	●	●	●	●	●	●	VXJV
BS socket welding	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VXIV
ASTM series plain female ends	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VXAV
	PVC-C	n.a.	●	●	●	●	●	●	●	●	●	VXAC
NPT series threaded female ends	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VXNV
	PVC-C	n.a.	●	●	●	●	●	●	●	●	●	VXNC
JIS series plain female ends	PVC-U	n.a.	●	●	●	●	●	●	●	●	n.a.	VXJV
JIS series threaded female ends	PVC-U	n.a.	●	●	●	●	●	●	●	●	n.a.	VXGV
PN [bar] 16 bar = 232 psi 10 bar = 150 psi 6 bar = 87 psi	PVC-U	16	16	16	16	16	16	16	10	10	6	
	PVC-C	16	16	16	16	16	16	16	10	10	6	
Kv100 [l/min]		80	200	385	770	1100	1750	3400	5250	7100	9500	

Notes: n.a.= not available, o.r.= on request (not in standard production)

**VT**



### 3-Way Ball Valve

Body material

PVC-U

Ball seats material

PTFE

Seals material

EPDM

FPM (*spare seals set*)

Functions

T - bore

L - bore

Accessories

End connections (Butt Weld.) in PE (CVDE)

d [mm]		16	20	25	32	40	50	63	
DN [mm]		10	15	20	25	32	40	50	
SIZE [inch]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	Type
ISO-DIN metric series plain female ends	<b>PVC-U</b>	●	●	●	●	●	●	●	<b>VTIV</b>
ISO-DIN metric series plain male ends	<b>PVC-U</b>	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	<b>VTDV</b>
BSP series threaded female ends	<b>PVC-U</b>	●	●	●	●	●	●	●	<b>VTFV</b>
BS socket welding	<b>PVC-U</b>	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	<b>VTLV</b>
ASTM series plain female ends	<b>PVC-U</b>	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	<b>VTAV</b>
NPT series threaded female ends	<b>PVC-U</b>	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	<b>VTNV</b>
JIS series plain female ends	<b>PVC-U</b>	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	<b>VTJV</b>
JIS series threaded female ends	<b>PVC-U</b>	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	<b>VTGV</b>
FLANGED ISO-DIN	<b>PVC-U</b>	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	<b>VTOV</b>
FLANGED ANSI	<b>PVC-U</b>	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	<b>VTOAV</b>
FLANGED JIS PVC-U	<b>PVC-U</b>	n.a.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	<b>VTOJV</b>
PN [bar]	<b>PVC-U</b>	10	10	10	10	10	10	10	
10 bar = 150 psi									

Notes: n.a.= not available, o.r.= on request (not in standard production)

**FK**



## Butterfly Valve

### Body material

PP-GR

### Disc materials

PVC-U

PP-H

PVDF

PVC-C

ABS

### Stem material

Stainless steel 420  
(S.S 316 on req.)

### Seals materials

EPDM

FPM

(NBR on req.)

### Accessories

Infinite adjusting kit (FK/RF)

Microswitches box (FK/MS)

d [mm]		50	63	75	90	110	140	160	225	280	315	
DN [mm]		40	50	65	80	100	125	150	200	250	300	
SIZE [inch]		1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	Type
Flangeable according: ISO-DIN-UNI BS 10 table D/E ASA B16,5 class 150 JIS 2212	PVC-U	●	●	●	●	●	●	●	●	●	●	FKOV/..
	PP-H	●	●	●	●	●	●	●	●	●	●	FKOM/..
	PVDF	●	●	●	●	●	●	●	●	●	●	FKOF/..
	PVC-C	●	●	●	●	●	●	●	●	●	●	FKOC/..
	ABS	●	●	●	●	●	●	●	●	●	●	FKOA/..
LUG version DIN	PVC-U	n.a	n.a	●	●	●	●	●	●	n.a	n.a	FKOLV/...
	PP-H	n.a	n.a	●	●	●	●	●	●	n.a	n.a	FKOLM/...
	PVDF	n.a	n.a	●	●	●	●	●	●	n.a	n.a	FKOLF/...
	PVC-C	n.a	n.a	●	●	●	●	●	●	n.a	n.a	FKOLC/...
	ABS	n.a	n.a	●	●	●	●	●	●	n.a	n.a	FKOLA/...
LUG version ANSI	PVC-U	n.a	n.a	●	●	●	●	●	●	o.r.	o.r.	FKOALV/...
	PP-H	n.a	n.a	●	●	●	●	●	●	o.r.	o.r.	FKOALM/...
	PVDF	n.a	n.a	●	●	●	●	●	●	o.r.	o.r.	FKOALF/...
	PVC-C	n.a	n.a	●	●	●	●	●	●	o.r.	o.r.	FKOALC/...
	ABS	n.a	n.a	●	●	●	●	●	●	o.r.	o.r.	FKOALA/...
PN [bar] 16 bar = 232 psi 10 bar = 150 psi 8 bar = 116 psi 6 bar = 87 psi	PVC-U	16	16	10	10	10	10	10	10	10	8	
	PP-H	10	10	10	10	10	10	10	10	10	8	
	PVDF	16	16	10	10	10	10	10	10	10	8	
	PVC-C	16	16	10	10	10	10	10	10	10	8	
	ABS	16	16	10	10	10	10	10	10	10	8	
PN [bar] lug version	<b>all mater.</b>	-	-	10	10	10	10	10	10	6	6	
Kv100 [l/min]		1000	1285	1700	3550	5900	9850	18700	30500	53200	81600	

Notes: n.a.= not available, o.r.= on request (not in standard production)

### Versions

With handle	FKO.../LM	DN 40 - DN 200
Free shaft with actuation flange	FKO.../FM	DN 40 - DN 300
With gear box	FKO.../RM	DN 65 - DN 300

**FE**



d [mm]	50	63	75	90	110	140	160	225	
DN [mm]	40	50	65	80	100	125	150	200	
SIZE [inch]	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	Type
Flangeable according: ISO-DIN-UNI BS 10 table D/E ASA B16,5 class 150 JIS 2212	<b>PVC-U</b>	●	●	●	●	●	●	●	<b>FEOW/..</b>
LUG version DIN (with movable inserts kit)	<b>PVC-U</b>	●	●	●	●	●	●	●	
PN [bar] 16 bar = 232 psi 10 bar = 150 psi 6 bar = 87 psi 4 bar = 58 psi	<b>PVC-U</b>	16	16	10	10	10	10	10	
PN [bar] lug version		6	6	6	6	6	4	4	
Kv100 [l/min]		1000	1285	1700	3550	5900	9850	18700	30500

Notes: n.a.= not available, o.r.= on request (not in standard production)

## Butterfly Valve

Body material

PVC-U

Disc material

PVC-U

Stem material

Zinc plated steel

Seals materials

EPDM

FPM

(NBR on req.)

Accessories

LUG DIN inserts kit

### Versions

With handle	FEOW/LM	DN 40 - DN 200
With gear box	FEOW/RM	DN 65 - DN 200

**VM**



## Diaphragm Valve

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Diaphragm materials

EPDM  
FPM  
PTFE  
(*NBR on req.*)

### O-Ring materials

EPDM  
FPM

### Accessories

Position indicator as standard  
Security blocking device  
Electrical position indicator (1 microswitch)  
Plate for DN15-50 bodies alignment  
End connections (Butt Weld.) in PE (DN15-50)  
End connections (Butt Weld.) in PP-H (DN15-50)

d [mm]		20	25	32	40	50	63	75	90	110	
DN [mm]		15	20	25	32	40	50	65	80	100	
SIZE [inch]		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	Type
ISO-DIN metric series unionised plain female ends	PVC-U	●	●	●	●	●	●	n.a.	n.a.	n.a.	VMUIV
	PP-H	●	●	●	●	●	●	n.a.	n.a.	n.a.	VMUIM
	PVDF	●	●	●	●	●	●	n.a.	n.a.	n.a.	VMUIF
	PVC-C	●	●	●	●	●	●	n.a.	n.a.	n.a.	VMUIC
ISO-DIN metric series plain male ends	PVC-U	●	●	●	●	●	●	●	●	●	VMDV
	PP-H	●	●	●	●	●	●	●	●	●	VMDM
	PVDF	●	●	●	●	●	●	●	●	●	VMDF
	PVC-C	●	●	●	●	●	●	●	●	●	VMDC
BSP series unionised threaded female ends	PVC-U	●	●	●	●	●	●	n.a.	n.a.	n.a.	VMUFV
	PVC-C	●	●	●	●	●	●	n.a.	n.a.	n.a.	VMUFC
BS unionised socket welding	PVC-U	●	●	●	●	●	●	n.a.	n.a.	n.a.	VMULV
ASTM series unionised plain female ends	PVC-U	●	●	●	●	●	●	n.a.	n.a.	n.a.	VMUAV
	PVC-C	●	●	●	●	●	●	n.a.	n.a.	n.a.	VMUAC
ASTM series plain male ends	PVC-U	●	●	●	●	●	●	●	●	●	VMYV
	PVC-C	●	●	●	●	●	●	●	●	●	VMYC
NPT series unionised threaded female ends	PVC-U	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	VMUNV
	PVC-C	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	VMUNC
JIS series unionised plain female ends	PVC-U	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	VMUJV
FLANGED ISO-DIN	PVC-U	●	●	●	●	●	●	●	●	●	VMOV
	PP-H	●	●	●	●	●	●	●	●	●	VMOM
	PVDF	●	●	●	●	●	●	●	●	●	VMOF
	PVC-C	●	●	●	●	●	●	●	●	●	VMOG
FLANGED ANSI	PVC-U	●	●	●	●	●	●	●	●	●	VMOAV
	PP-H	●	●	●	●	●	●	●	●	●	VMOAM
	PVDF	●	●	●	●	●	●	●	●	●	VMOAF
	PVC-C	●	●	●	●	●	●	●	●	●	VMOAC
FLANGED JIS	PVC-U	●	●	●	●	●	●	●	●	●	VMOJV
PN [bar] 10 bar = 150 psi	PVC-U	10	10	10	10	10	10	10	10	10	
	PP-H	10	10	10	10	10	10	10	10	10	
	PVDF	10	10	10	10	10	10	10	10	10	
	PVC-C	10	10	10	10	10	10	10	10	10	
Kv100 [l/min]		93	136	175	300	416	766	1300	2000	2700	

Notes: n.a.= not available, o.r.= on request (not in standard production)



## Compact Diaphragm Valve

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Diaphragm materials

EPDM  
FPM  
PTFE

### O-Ring materials

EPDM  
FPM

### Accessories

Position indicator as standard  
Adjustable travel stop as standard  
End connections (Butt Weld.) in PE (DN15)  
End connections (Butt Weld.) in PP-H (DN15)

d [mm]		16	20	
DN [mm]		12	15	
SIZE [inch]		3/8"	1/2"	Type
ISO-DIN metric series unionised plain female ends	PVC-U	n.a.	●	CMUIV
	PP-H	n.a.	●	CMUIM
	PVDF	n.a.	●	CMUIF
	PVC-C	n.a.	●	CMUIC
ISO-DIN metric series plain female ends	PVC-U	●	●	CMIV
	PP-H	●	●	CMIM
	PVDF	●	●	CMIF
ISO-DIN metric series plain male ends	PVC-U	n.a.	●	CMDV
	PP-H	n.a.	●	CMDM
	PVDF	n.a.	●	CMDF
	PVC-C	n.a.	●	CMDC
BSP series unionised threaded female ends	PVC-U	n.a.	●	CMUFV
BSP series threaded female ends	PVC-U	●	●	CMFV
	PP-H	●	●	CMFM
	PVDF	●	●	CMFF
BS unionised socket welding	PVC-U	n.a.	o.r.	CMULV
ASTM series unionised plain female ends	PVC-U	n.a.	o.r.	CMUAV
	PVC-C	n.a.	o.r.	CMUAC
NPT series unionised threaded female ends	PVC-U	n.a.	o.r.	CMUNV
	PVC-C	n.a.	o.r.	CMUNC
PN [bar] 6 bar = 87 psi	PVC-U	6	6	
	PP-H	6	6	
	PVDF	6	6	
	PVC-C	6	6	
Kv100 [l/min]		47	60	

Notes: n.a.= not available, o.r.= on request (not in standard production)

# VM/RM



d [mm]		12	
DN [mm]		8	
R [BSP inches]		1/4"	<b>Type</b>
ISO-DIN metric series plain female ends	<b>PVC-U</b>	●	<b>VMIV</b>
BSP series threaded female ends	<b>PVC-U</b>	●	<b>VMFV</b>
PN [bar]	<b>PVC-U</b>	10	

d [mm]		20	
DN [mm]		15	
R [BSP inches]		1/2"	<b>Type</b>
BSP series one male thread one hose adaptor	<b>PVC-U</b>	●	<b>RMRPV</b>
BSP series two male threads	<b>PVC-U</b>	●	<b>RMRV</b>
PN [bar]	<b>PVC-U</b>	4	

Notes: n.a.= not available, o.r.= on request (not in standard production)

## Mini Diaphragm Valve

Body material

PVC-U

Diaphragm material

EPDM





## Foot Valve

Body material

PVC-U

Seals material

EPDM

Accessories

PVC-U screen (SZIV)



## Air Release Valve

Body material

PVC-U

Seals material

EPDM

d [mm]		16	20	25	32	40	50	63	
DN [mm]		10	15	20	25	32	40	50	
R [BSP inches]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	<b>Type</b>
ISO-DIN metric series plain male and female ends	<b>PVC-U</b>	●	●	●	●	●	●	●	<b>VZIV</b>
BSP series threaded female ends	<b>PVC-U</b>	n.a.	●	●	●	●	●	●	<b>VZFV</b>
PN [bar] 16 bar = 232 psi	<b>PVC-U</b>	16	16	16	16	16	16	16	
Minimum pressure drop [bar] for piston in the fully open position		0.008	0.008	0.009	0.014	0.017	0.018	0.021	
Minimum back pressure [mm H <sub>2</sub> O] for drop tight service (piston in closed position)		150	150	200	350	350	350	350	

d [mm]		20	25	32	40	50	63	
DN [mm]		15	20	25	32	40	50	
R [BSP inches]		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	<b>Type</b>
ISO-DIN metric series plain male and female ends	<b>PVC-U</b>	●	●	●	●	●	●	<b>VAIV</b>
BSP series threaded female ends	<b>PVC-U</b>	●	●	●	●	●	●	<b>VAFV</b>
PN [bar] 16 bar = 232 psi	<b>PVC-U</b>	16	16	16	16	16	16	

Notes: n.a.= not available, o.r.= on request (not in standard production)

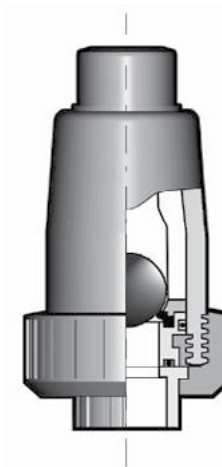


# SR



d [mm]		20	25	32	40	50	63	
DN [mm]		15	20	25	32	40	50	
								Type
ISO-DIN metric series plain male and female ends	PVC-U	●	●	●	●	●	●	SRIV
	PP-H	●	●	●	●	●	●	SRIM
	PVDF	●	●	●	●	●	●	SRIF
	PVC-C	●	●	●	●	●	●	SRIC
FLANGED ISO-DIN	PVC-U	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	SROV
	PP-H	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	SROM
	PVDF	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	SROF
	PVC-C	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	SROC
FLANGED ANSI	PVC-U	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	SROAV
	PP-H	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	SROAM
	PVDF	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	SROAF
	PVC-C	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	SROAC
PN [bar] 16 bar = 232 psi 10 bar = 150 psi	PVC-U	16	16	16	16	16	16	
	PP-H	10	10	10	10	10	10	
	PVDF	16	16	16	16	16	16	
	PVC-C	16	16	16	16	16	16	
Kv100 [l/min]		110	205	240	410	650	840	
Minimum back pressure [bar] for drop tight service (valve in horizontal position)	PVC-U	0,2	0,2	0,2	0,2	0,2	0,2	
	PP-H	0,4	0,4	0,4	0,4	0,4	0,4	
	PVDF	0,2	0,2	0,2	0,2	0,2	0,2	
	PVC-C	0,2	0,2	0,2	0,2	0,2	0,2	

Notes: n.a.= not available, o.r.= on request (not in standard production)



## Ball Check Valve

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Seals materials

EPDM  
FPM

# VR



## Angle Seat Check Valve

### Body materials

PVC-U  
PP-H

### Seals materials

EPDM  
FPM

d [mm]		16	20	25	32	40	50	63	75	90	110	
DN [mm]		10	15	20	25	32	40	50	65	80	100	
R [BSP inches]		3/8"	1/2"	3/4"	1"	1 1/4"	2"	2 1/2"	3"	4"		Type
ISO-DIN metric series unionised plain female ends	PVC-U	●	●	●	●	●	●	●	●	●	●	VRUIV
	PP-H	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	VRUIM
ISO-DIN metric series plain female ends	PVC-U	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	●	VRIV
	PP-H	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	n.a.	VRIM
ISO-DIN metric series plain male ends	PVC-U	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	VRDV
	PVC-U	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	VRUFV
BSP series unionised threaded female ends	PVC-U	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	VRFV
BSP series threaded female ends	PVC-U	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	●	VRFV
BS unionised socket welding	PVC-U	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	VRULV
ASTM series unionised plain female ends	PVC-U	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	VRUAV
NPT series unionised threaded female ends	PVC-U	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	VRUNV
FLANGED ISO-DIN	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VROV
FLANGED ANSI	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	VROAV
PN [bar]	PVC-U	16	16	16	16	16	16	16	10	6	6	
16 bar = 232 psi	PP-H	10	10	10	10	10	10	10	6	4		
10 bar = 150 psi												
6 bar = 87 psi												
4 bar = 58 psi												
Kv100 [l/min]		47	110	205	375	560	835	1300	1950	2600	3500	
Min pressure to raise the piston [bar]		0,008	0,008	0,009	0,014	0,017	0,018	0,021	0,022	0,022	0,024	
Minimum back pressure [mmH2O] for drop tight service (valve in horizontal or vertical position)		150	150	200	350	350	350	350	350	350	350	

Notes: n.a.= not available, o.r.= on request (not in standard production)

# RV



## Sediment Strainer

### Body materials

PVC-U  
PVC-U transparent  
PP-H  
PVC-C

### Seals materials

EPDM  
FPM

screen material	PP	PVC	PVC	PVC	PVC	INOX
hole pitch [mm]	1,5	1,0	1,5	2,0	2,5	0,7
holes per cm <sup>2</sup>	100	190	100	60	35	240
equivalent ASTM mesh size	30	50	35	30	18	35
equivalent hole diameter µm	600	300	500	600	900	500

d [mm]		16	20	25	32	40	50	63	75	90	110	
DN [mm]		10	15	20	25	32	40	50	65	80	100	
Size [inches]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	Type
ISO-DIN metric series unionised plain female ends	PVC-U	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUIV
	PVC-U tr.	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUIT
	PP-H	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUIM
	PVC-C	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUIC
ISO-DIN metric series plain female ends	PVC-U	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	●	RVIV
	PVC-U tr.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	●	RVIT
	PP-H	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	●	RVIM
ISO-DIN metric series plain male ends	PVC-U	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVDV
	PVC-U tr.	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVDT
BSP series unionised threaded female ends	PVC-U	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUFV
	PVC-U tr.	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUFT
BSP series threaded female ends	PVC-U	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	●	RVFV
	PVC-U tr.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	●	RVFT
BS unionised socket welding	PVC-U	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	RVULV
ASTM series unionised plain female ends	PVC-U tr.	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUAT
	PVC-C	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUAC
ASTM series plain female ends	PVC-U tr.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	RVAT
NPT series unionised threaded female ends	PVC-U tr.	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUNT
	C- PVC	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	RVUNC
NPT series threaded female ends	PVC-U tr.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	RVNT
FLANGED ISO-DIN	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	RVOV
	PVC-U tr.	n.a.	●	●	●	●	●	●	●	●	●	RVOT
FLANGED ANSI	PVC-U	n.a.	●	●	●	●	●	●	●	●	●	RVOAV
	PVC-U tr.	n.a.	●	●	●	●	●	●	●	●	●	RVOAT
PN [bar] 16 bar = 232 psi 10 bar = 150 psi 6 bar = 87 psi 4 bar = 58 psi	PVC-U	16	16	16	16	16	16	16	10	6	6	
	PVC-U tr.	16	16	16	16	10	10	10	6	4	4	
	PP-H	n.a.	10	10	10	10	10	10	6	4	4	
	PVC-C	n.a.	16	16	16	16	16	16	n.a.	n.a.	n.a.	
Kv100 [l/min]		22	40	70	103	188	255	410	650	1050	1700	
Total filtering surface At [cm <sup>2</sup> ]		16	16	23,5	36	53	69	101	197	247	396	

Notes: n.a.= not available, o.r.= on request (not in standard production)

**VV**



## Angle Seat Valve

Body material

PVC-U

Seals materials

EPDM/PE

EPDM/PTFE (\*)

FPM/PTFE (\*)

(\*) spare set

d [mm]	16	20	25	32	40	50	63	75	90	110		
DN [mm]	10	15	20	25	32	40	50	65	80	100		
Size [inches]	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	Type	
ISO-DIN metric series unionised plain female ends	<b>PVC-U</b>	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	<b>VVUIV</b>
ISO-DIN metric series plain female ends	<b>PVC-U</b>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	●	●	●	<b>VVIV</b>
ISO-DIN metric series plain male ends	<b>PVC-U</b>	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	<b>VVDV</b>
BSP series unionised threaded female ends	<b>PVC-U</b>	●	●	●	●	●	●	●	n.a.	n.a.	n.a.	<b>VVUFV</b>
BS unionised socket welding	<b>PVC-U</b>	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	<b>VVULV</b>
ASTM series unionised plain female ends	<b>PVC-U</b>	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	<b>VVUAV</b>
NPT series unionised threaded female ends	<b>PVC-U</b>	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.	n.a.	n.a.	n.a.	<b>VVUNV</b>
FLANGED ISO-DIN	<b>PVC-U</b>	n.a.	●	●	●	●	●	●	●	●	●	<b>VVOV</b>
FLANGED ANSI	<b>PVC-U</b>	n.a.	●	●	●	●	●	●	●	●	●	<b>VVOAV</b>
PN [bar] 16 bar = 232 psi 10 bar = 150 psi 6 bar = 87 psi	<b>PVC-U</b>	16	16	16	16	10	10	10	10	6	6	
Kv100 [l/min]		47	110	205	375	560	835	1300	1950	2600	3500	

Notes: n.a.= not available, o.r.= on request (not in standard production)

**CR**



## Wafer Check Valve

Body material

PVC-U

Seals material

EPDM

*NOTE: Other materials and types of Wafer Check Valves can be supplied on request: please ask for type FR.*

d [mm]		50	63	75	90	110	140	160	225	280	315	
DN [mm]		40	50	65	80	100	125	150	200	250	300	<b>Type</b>
ISO-DIN	<b>PVC-U</b>	●	●	●	●	●	●	●	●	●	●	<b>CROV</b>
Working Pressure [bar]	<b>PVC-U</b>	5	5	5	5	5	5	5	5	5	5	
Minimum pressure [bar] for opening with upward flow	<b>PVC-U</b>	0,002	0,003	0,003	0,003	0,003	0,003	0,005	0,005	0,008	0,008	
Minimum back pressure [bar] for drop tight service	<b>PVC-U</b>	0,3	0,3	0,3	0,2	0,2	0,2	0,2	0,2	0,2	0,2	
Kv100 [l/min]		370	900	1250	1867	2867	5700	8167	18800	25000	31900	

Notes: n.a.= not available, o.r.= on request (not in standard production)

**SV**



d [mm]		20	25	32	
DN [mm]		15	20	25	
Size [inches]		1/2"	3/4"	1"	Type
ISO-DIN metric series unionised plain female ends	<b>PVC-U</b>	●	●	●	<b>SVUIV</b>
BSP series unionised threaded female ends	<b>PVC-U</b>	●	●	●	<b>SVUFV</b>
BS unionised socket welding	<b>PVC-U</b>	o.r.	o.r.	o.r.	<b>SVULV</b>
ASTM series unionised plain female ends	<b>PVC-U</b>	o.r.	o.r.	o.r.	<b>SVUAV</b>
NPT series unionised threaded female ends	<b>PVC-U</b>	o.r.	o.r.	o.r.	<b>SVUNV</b>
PN [bar] 16 bar = 232 psi	<b>PVC-U</b>	16	16	16	
Regulation Range [bar]	0.3 ÷ 4				

Notes: n.a.= not available, o.r.= on request (not in standard production)

## Angle Seat Pressure Relief Valve

Body material

PVC-U

Seals materials

EPDM

FPM

# VKD/CP



## Pneumatically actuated 2-Way Ball Valve

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Ball seats material

PTFE

### Seals materials

EPDM  
FPM

### Working functions

DA *Double acting*  
NC *Normally Closed*  
NO *Normally Open*

d [mm]		16	20	25	32	40	50	63	75	90	110
DN [mm]		10	15	20	25	32	40	50	65	80	100
SIZE [inch]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
for materials and sizes available see manual valve VKD											
Kv100 [l/min]		80	200	385	770	1100	1750	3400	5250	7100	9500
PN [bar] 16 bar = 232 psi 10 bar = 150 psi	PVC-U	16	16	16	16	16	16	16	10*	10*	10*
	PP-H	10	10	10	10	10	10	10	10	10	10
	PVDF	16	16	16	16	16	16	16	10*	10*	10*
	PVC-C	16	16	16	16	16	16	16	10*	10*	10*
Control pressure [bar]		standard 6									
NAMUR Air Connections	BSP	1/8"	1/8"	1/8"	1/8"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Actuator capacity [NL]	DA	0,18	0,18	0,23	0,23	0,45	0,45	0,45	0,45	0,61	0,98
	NC-NO	0,18	0,18	0,23	0,23	0,45	0,45	0,45	0,61	0,98	1,8

\* on request PN16

### Accessories

#### Position Indicator

Pilot solenoid valve 3-5/2 ways	Voltages AC	230-110-24 V
	Voltages DC	24 V
	Protection	IP 65

#### Limit Switches box

Electromechanical	Contact rate	2,5A (24V )-0,3A (250V)
	Protection	IP 67
	Voltage	5-36 V DC
Proximity PNP (3 wires)	Current	0-200 mA
	Protection	IP67
	Voltage	8 V DC
Proximity NAMUR	Protection	IP 67
	Safety Class	EEx ia IIC T6

#### Pneumatic or Electropneumatic Positioner

Input signal	3-15 psi or 4-20 mA
Protection	IP 65



# TKD/CP



## Pneumatically actuated 3-Way Ball Valve

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Ball seats material

PTFE

### Seals materials

EPDM  
FPM

### Working functions

DA *Double acting*  
NC *Normally Closed*  
NO *Normally Open*

supplied standard with L-bore  
on request with T-bore  
(Configuration 1,2,3,4: see catalogue)

d [mm]		16	20	25	32	40	50	63
DN [mm]		10	15	20	25	32	40	50
SIZE [inch]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
for materials and sizes available see manual valve TKD								
Kv100 [l/min] with L bore		48	73	150	265	475	620	1220
PN [bar] 16 bar = 232 psi 10 bar = 150 psi	PVC-U	16	16	16	16	16	16	16
	PP-H	10	10	10	10	10	10	10
	PVDF	16	16	16	16	16	16	16
	PVC-C	16	16	16	16	16	16	16
Control pressure [bar]		standard 6						
NAMUR Air Connections	BSP	1/8"	1/8"	1/4"	1/4"	1/4"	1/4"	1/4"
Actuator capacity [NL]	DA	0,23	0,23	0,45	0,45	0,45	0,45	0,61
	NC-NO	0,23	0,23	0,45	0,45	0,45	0,45	0,61

### Accessories

#### Position Indicator

Pilot solenoid valve 3-5/2 ways	Voltages AC	230-110-24 V
	Voltages DC	24 V
	Protection	IP 65

#### Limit Switches box

Electromechanical	Contact rate	2,5A (24V )-0,3A (250V)	
	Protection	IP 67	
	Proximity PNP (3 wires)	Voltage	5-36 V DC
		Current	0-200 mA
		Protection	IP67
	Proximity NAMUR	Voltage	8 V DC
Protection		IP 67	
Safety Class		EEx ia IIC T6	

#### Pneumatic or Electropneumatic Positioner

Input signal	3-15 psi or 4-20 mA
Protection	IP 65

# FK/CP



## Pneumatically actuated Butterfly Valve

### Body material

PP-GR

### Disc materials

PVC-U  
PP-H  
PVDF  
PVC-C  
ABS

### Stem material

Stainless steel 420  
(S.S 316 on req.)

### Seals materials

EPDM  
FPM  
(NBR on req.)

### Working functions

DA Double acting  
NC Normally Closed  
NO Normally Open

d [mm]		50	63	75	90	110	140	160	225	280	315
DN [mm]		40	50	65	80	100	125	150	200	250	300
SIZE [inch]		1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
for materials and sizes available see manual valve FK											
Kv100 [l/min]		1000	1285	1700	3550	5900	9850	18700	30500	53200	81600
PN [bar] 16 bar = 232 psi 10 bar = 150 psi 8 bar = 116 psi	PVC-U	16	16	10	10	10	10	10	10	10	8
	PP-H	10	10	10	10	10	10	10	10	10	8
	PVDF	16	16	10	10	10	10	10	10	10	8
	PVC-C	16	16	10	10	10	10	10	10	10	8
	ABS	16	16	10	10	10	10	10	10	10	8
PN [bar] Lug version	all mater.	n.a.	n.a.	10	10	10	10	10	10	n.a.	n.a.
Control pressure [bar]		standard 6									
NAMUR Air Connections	BSP	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Actuator capacity [NL]	DA	0,45	0,45	0,45	0,61	0,98	0,98	1,8	2,8	4,9	4,9
	NC-NO	0,45	0,61	0,61	0,98	1,8	2,8	2,8	8	14,2	14,2

Notes: n.a.= not available, o.r.= on request (not in standard production)

### Accessories

#### Position Indicator

Pilot solenoid valve 3-5/2 ways	Voltages AC	230-110-24 V
	Voltages DC	24 V
	Protection	IP 65

#### Limit Switches box

Electromechanical	Contact rate	2,5A (24V )-0,3A (250V)
	Protection	IP 67
Proximity PNP (3 wires)	Voltage	5-36 V DC
	Current	0-200 mA
	Protection	IP67
Proximity NAMUR	Voltage	8 V DC
	Protection	IP 67
	Safety Class	EEx ia IIC T6

#### Pneumatic or Electropneumatic Positioner

Input signal	3-15 psi or 4-20 mA
Protection	IP 65

SPECIAL VERSIONS FOR SWIMMING POOL APPLICATION AVAILABLE ON REQUEST

# FE/CP



## Pneumatically actuated Butterfly Valve

Body material	PVC-U
Disc material	PVC-U
Stem material	Zinc plated steel
Seals materials	EPDM FPM (NBR on req.)
Working functions	DA <i>Double acting</i> NC <i>Normally Closed</i> NO <i>Normally Open</i>

d [mm]		50	63	75	90	110	140	160	225
DN [mm]		40	50	65	80	100	125	150	200
SIZE [inch]		1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
for materials and sizes available see manual valve FE									
Kv100 [l/min]		1000	1285	1700	3550	5900	9850	18700	30500
PN [bar]	<b>PVC-U</b>	16	16	10	10	10	10	10	10
		16 bar = 232 psi 10 bar = 150 psi							
PN [bar] Lug version	<b>all mater.</b>	6	6	6	6	6	4	4	4
Control pressure [bar]	<b>standard 6</b>								
NAMUR Air Connections	<b>BSP</b>	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	<b>DA</b>	0,45	0,45	0,45	0,61	0,98	0,98	1,8	2,8
Actuator capacity [NL]	<b>NC-NO</b>	0,45	0,61	0,61	0,98	1,8	2,8	2,8	8

<b>Accessories</b>				
<b>Position Indicator</b>				
<b>Pilot solenoid valve 3-5/2 ways</b>	Voltages AC	230-110-24 V		
	Voltages DC	24 V		
	Protection	IP 65		
<b>Limit Switches box</b>				
<b>Limit Switches box</b>	Electromechanical	Contact rate	2,5A (24V )-0,3A (250V)	
		Protection	IP 67	
	Proximity PNP (3 wires)	Voltage	5-36 V DC	
		Current	0-200 mA	
		Protection	IP67	
	Proximity NAMUR	Voltage	8 V DC	
Protection		IP 67		
Safety Class		EEx ia IIC T6		
<b>Pneumatic or Electropneumatic Positioner</b>				
<b>Pneumatic or Electropneumatic Positioner</b>	Input signal	3-15 psi or 4-20 mA		
	Protection	IP 65		

SPECIAL VERSIONS FOR SWIMMING POOL APPLICATION AVAILABLE ON REQUEST

# MK/CP



## Pneumatically actuated Diaphragm Valve

*Piston type actuator*

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Diaphragm materials

EPDM  
FPM  
PTFE  
*(NBR on req.)*

### O-Ring materials

EPDM  
FPM

### Working functions

DA *Double acting*  
NC *Normally Closed*  
NO *Normally Open*

d [mm]		20	25	32	40	50	63
DN [mm]		15	20	25	32	40	50
SIZE [inch]		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"

for materials and sizes available see manual valve VM

Kv100 [l/min]		93	136	175	300	416	766
PN [bar]	<b>all mater.</b>	10	10	10	10	10	10
		10 bar = 150 psi 6 bar = 87 psi					
Control pressure [bar]	<b>NC</b>	max 6 (see graph)					
	<b>NO-DA</b>	max 5 (see graph)					
Air Connections	<b>BSP</b>	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Actuator capacity [NL]	<b>NC</b>	0,19	0,19	0,19	0,31	0,31	0,68
	<b>NO-DA</b>	0,17	0,17	0,17	0,33	0,33	0,79

### Accessories

#### Position Indicator

#### Stroke limiter

#### Stroke limiter with optical position indicator

#### Stroke limiter with optical position indicator and emergency manual override

<b>Pilot solenoid valve</b> 3/2 ways <i>(Direct or gang mounting)</i>	Voltages AC	230-110-48-24 V
	Voltages DC	110-24-12 V
	Protection	IP 65

#### Limit Switches box

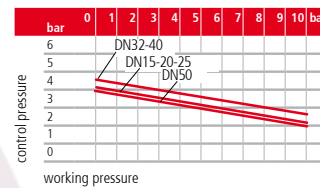
Electromechanical	Contact rate	250 V-5 A
	Protection	IP 65
Proximity PNP (3 wires)	Voltage	10-30 V DC
	Current	0-100 mA
	Protection	box: IP65
Proximity NAMUR (2 wires)	Voltage	8 V DC
	Protection	box: IP 65

#### Electropneumatic Positioner

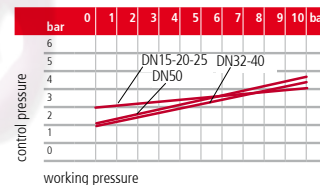
Input signal	4-20 mA
Protection	IP 65

OTHER SPECIAL: SEE OFFICIAL CATALOGUE

## MK/NC



## MK/NO-DA



# VM/NC



## Pneumatically actuated Diaphragm Valve Normally Closed Diaphragm type actuator

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Diaphragm materials

EPDM  
FPM  
PTFE  
NBR

### O-Ring materials

EPDM  
FPM

d [mm]		20	25	32	40	50	63	75	90	110
DN [mm]		15	20	25	32	40	50	65	80	100
SIZE [inch]		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"

for materials and sizes available see manual valve VM

Kv100 [l/min]		93	136	175	300	416	766	1300	2000	2700
PN [bar]	<b>all mater.</b>	10	10	10	10	10	10	6	6	6
10 bar = 150 psi 6 bar = 87 psi										
Control pressure [bar]		max 6 (see graph)								
Air Connections	<b>BSP</b>	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Actuator capacity [NL]		0,16	0,16	0,16	0,36	0,36	1,15	2,10	2,10	

### Accessories

Position Indicator

Stroke limiter

Stroke limiter with optical position indicator

Stroke limiter with optical position indicator and emergency manual override

Pilot solenoid valve  
3/2 ways

(Direct or gang mounting)

Voltages AC 230-110-48-24 V

Voltages DC 110-24-12 V

Protection IP 65

Limit Switches box

Electromechanical Contact rate 250 V-5 A

Protection IP 65

Voltage 10-30 V DC

Current 0-100 mA

Protection box: IP65

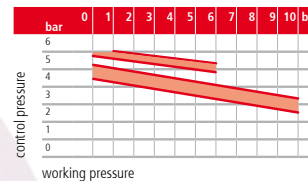
Voltage 8 V DC

Protection box: IP 65

Electropneumatic  
Positioner

Input signal 4-20 mA

Protection IP 65



OTHER SPECIAL: SEE OFFICIAL CATALOGUE

# VM/NO



## Pneumatically actuated Diaphragm Valve Normally Open Diaphragm type actuator

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Diaphragm materials

EPDM  
FPM  
PTFE  
NBR

### O-Ring materials

EPDM  
FPM

### Functions

Up to DN50 the NO is also suitable for DA  
For DN65-80-100 DA version on request

d [mm]		20	25	32	40	50	63	75	90	110
DN [mm]		15	20	25	32	40	50	65	80	100
SIZE [inch]		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
for materials and sizes available see manual valve VM										
Kv100 [l/min]		93	136	175	300	416	766	1300	2000	2700
PN [bar]	<b>all mater.</b>	10	10	10	10	10	10	6	6	6
10 bar = 150 psi										
6 bar = 87 psi										
Control pressure [bar]	max 6 (see graph)									
Air Connections	<b>BSP</b>	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Actuator capacity [NL]		0,13	0,13	0,13	0,28	0,28	0,50	2,20	2,20	

### Accessories

Position Indicator

Stroke limiter

Stroke limiter with optical position indicator

Stroke limiter with optical position indicator and emergency manual override

### Pilot solenoid valve

3/2 ways

(Direct or gang mounting)

Voltages AC 230-110-48-24 V

Voltages DC 110-24-12 V

Protection IP 65

### Limit Switches box

Electromechanical Contact rate 250 V-5 A

Protection IP 65

Proximity PNP (3 wires) Voltage 10-30 V DC

Current 0-100 mA

Protection box: IP65

Proximity NAMUR (2 wires) Voltage 8 V DC

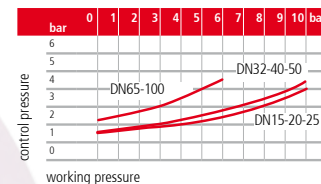
Protection box: IP 65

### Electropneumatic Positioner

Input signal 4-20 mA

Protection IP 65

**OTHER SPECIAL: SEE OFFICIAL CATALOGUE**



# DM/NO



d [mm]		20	25	32	40	50	63
DN [mm]		15	20	25	32	40	50
SIZE [inch]		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"

for materials and sizes available see manual valve VM

Kv100 [l/min]		93	136	175	300	416	766
PN [bar]	<b>all mater.</b>	8	8	8	8	8	8
8 bar = 116 psi							
Control pressure [bar]		max 10 (see graph)					
Air Connections	<b>BSP</b>	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"

## Pneumatically actuated Diaphragm Valve Normally Open

*Direct acting actuator*

### Body materials

PVC-U  
PP-H

### Diaphragm materials

EPDM  
FPM

### O-Ring materials

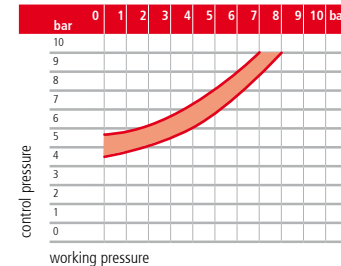
EPDM  
FPM

### Accessories

#### Position Indicator

#### Stroke limiter with optical position indicator

<b>Pilot solenoid valve</b> <b>3/2 ways</b> <i>(Direct or gang mounting)</i>	Voltages AC	230-110-48-24 V
	Voltages DC	110-24-12 V
	Protection	IP 65



# CM/CP



## Compact Pneumatically actuated Diaphragm Valve

*Piston type actuator*

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Diaphragm materials

EPDM  
FPM  
PTFE  
NBR

### O-Ring materials

EPDM  
FPM

### Working functions

DA *Double acting*  
NC *Normally Closed*  
NO *Normally Open*

d [mm]		16	20
DN [mm]		12	15
SIZE [inch]		3/8"	1/2"
for materials and sizes available see manual valve CM			
Kv100 [l/min]		47	58
PN [bar]	<b>all mater.</b>	6	6
6 bar = 87 psi			
Control pressure [bar]		4 - 7 (see graph)	
Air Connections	<b>BSP</b>	1/8"	1/8"
Actuator capacity [NL]		0,027	0,027

### Accessories

#### Position Indicator

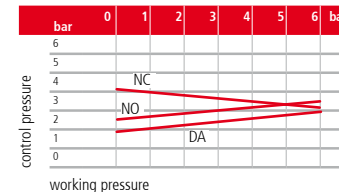
#### Stroke limiter

#### Stroke limiter with optical position indicator

<b>Pilot solenoid valve</b> <b>3/2 ways</b> <i>(Direct or gang mounting)</i>	Voltages AC	230-110-48-24 V
	Voltages DC	110-24-12 V
	Protection	IP 65

#### Limit Switches box

Electromechanical	Contact rate	250 V-5 A
	Protection	IP 65
Proximity NAMUR (2 wires)	Voltage	8 V DC
	Protection	box: IP 65





# VV/CP



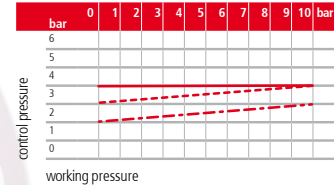
## Pneumatically actuated Angle Seat Valve

*Piston type actuator*

Body material	PVC-U
Seals material	EPDM FPM on request
Working functions	DA <i>Double acting</i> NC <i>Normally Closed</i> NO <i>Normally Open</i>

d [mm]		16	20	25	32	40	50	63
DN [mm]		12	15	20	25	32	40	50
SIZE [inch]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
for materials and sizes available see manual valve VV								
Kv100 [l/min]		53	74	136	156	250	330	570
PN [bar]		10	10	10	10	10	10	10
10 bar = 150 psi								
Control pressure [bar]		max 4 (see graph)						
Air Connections	<b>BSP</b>	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Actuator capacity [NL]		0,15	0,15	0,15	0,15	0,15	0,15	0,15

Accessories				
<b>Position Indicator (as standard)</b>				
<b>Stroke limiter with optical position indicator</b>				
<b>Pilot solenoid valve</b> <b>3/2 ways</b> <i>(Direct or gang mounting)</i>	Voltages AC	230-110-48-24 V		
	Voltages DC	110-24-12 V		
	Protection	IP 65		
<b>Limit Switches box</b>	Electromechanical	Contact rate	250 V-5 A	
		Protection	IP 65	
	Proximity NAMUR (2 wires)	Voltage	8 V DC	
		Protection	box: IP 65	



# VKD/CE



d [mm]	16	20	25	32	40	50	63	75	90	110
DN [mm]	10	15	20	25	32	40	50	65	80	100
SIZE [inch]	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"

for materials and sizes available see manual valve VKD

PN [bar] 16 bar = 232 psi 10 bar = 150 psi	PVC-U	16	16	16	16	16	16	10*	16	16	16
	PP-H	10	10	10	10	10	10	10	10	10	10
	PVDF	16	16	16	16	16	16	10*	16	16	16
	PVC-C	16	16	16	16	16	16	10*	16	16	16
Kv100 [l/min]		80	200	385	770	1100	1750	3400	5250	7100	9500

\* on request PN16

Actuator data	DN 10-32			DN 40-50			DN 65-80			DN 100	
	AC/DC	AC		AC/DC	AC		AC/DC	AC		AC/DC	AC
Voltage [V]	12	24	100÷240	12	24	100÷240	12	24	100÷240	24	100÷240
Power [W]	11	11	15	26	11	15	26	15	15	15	15
Working time [s]	25	20	10	8	20	20	20	60	60	100	100
Duty rating CEI34	30%	30%	50%	30%	30%	50%	30%	50%	50%	50%	50%
Protection	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65

## Electrically actuated 2-Way Ball Valve

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Ball seats material

PTFE

### Seals material

EPDM  
FPM

Temperature	-10°C/+55°C	
Electrical connections	Power supply	DIN 43650 3P+T
	Limit switches	gland ISO M20
Special versions on request	Different working times	
	IP67	
	ATEX II 2 GD EEx d IIB T6	
Actuator standard equipment	Emergency manual override	
	Visual position indicator	
	2 auxiliary and adjustable limit switches	
	Torque limiter	
Actuator accessories	Positioner 4-20 mA or 0-10 V	
	Fail safe security device (NC or NO)	
	Heating resistor	
	Feed back potentiometer 0.1 - 1 - 5 - 10 Kohm	
	4-20 mA position transmitter	
	2 additional limit switches	

# TKD/CE



## Electrically actuated 3-Way Ball Valve

### Body materials

PVC-U  
PP-H  
PVDF  
PVC-C

### Ball seats material

PTFE

### Seals materials

EPDM  
FPM

### Functions

L-bore (standard)  
T-bore (on request)

d [mm]		16	20	25	32	40	50	63
DN [mm]		10	15	20	25	32	40	50
SIZE [inch]		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"

for materials and sizes available see manual valve TKD

PN [bar] 16 bar = 232 psi 10 bar = 150 psi	PVC-U	16	16	16	16	16	16	10
	PP-H	10	10	10	10	10	10	10
	PVDF	16	16	16	16	16	16	10
	PVC-C	16	16	16	16	16	16	10
Kv100 [l/min] with L bore		48	73	150	265	475	620	1220

Actuator data	DN 10-25			DN 32-50		
	AC/DC	AC		AC/DC	AC	
Voltage [V]	12	24	100±240	12	24	100±240
Power [W]	11	11	15	26	11	15
Working time [s]	25	20	10	8	20	20
Duty rating CEI34	30%	30%	50%	30%	30%	50%
Protection	IP65	IP65	IP65	IP65	IP65	IP65

Temperature	-10°C/+55°C	
Electrical connections	Power supply	DIN 43650 3P+T
	Limit switches	gland ISO M20
Special versions on request	Different working times	
	IP67	
Actuator standard equipment	ATEX II 2 GD EEx d IIB T6	
	Emergency manual override	
	Visual position indicator	
	2 auxiliary and adjustable limit switches	
Actuator accessories	Torque limiter	
	Positioner 4-20 mA or 0-10 V	
	Fail safe security device (NC or NO)	
	Heating resistor	
	Feed back potentiometer 0.1 - 1 - 5 - 10 Kohm	
	4-20 mA position transmitter	
	2 additional limit switches	

# FK/CE



## Electrically actuated Butterfly Valve

### Body material

PP-GR

### Disc materials

PVC-U

PP-H

PVDF

PVC-C

ABS

### Stem material

Stainless steel 420  
(S.S 316 on req.)

### Seals materials

EPDM

FPM

(NBR on req.)

d [mm]		50	63	75	90	110	140	160	225	280	315	
DN [mm]		40	50	65	80	100	125	150	200	250	300	
SIZE [inch]		1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	

for materials and sizes available see manual valve FK

PN [bar] 16 bar = 232 psi 10 bar = 150 psi 8 bar = 116 psi	PVC-U	16	16	10	10	10	10	10	10	10	8	
	PP-H	10	10	10	10	10	10	10	10	10	8	
	PVDF	16	16	10	10	10	10	10	10	10	8	
	PVC-C	16	16	10	10	10	10	10	10	10	8	
ABS	16	16	10	10	10	10	10	10	10	10	8	
PN [bar] Lug version	all mater.	10	10	10	10	10	10	10	10	n.a.	n.a.	
Kv100 [l/min]		1000	1285	1700	3550	5900	9850	18700	30500	53200	81600	

Actuator data	DN 40-50-65			DN 80-100			DN 125-150		DN 200	DN 250-300		
	DC	AC/DC	AC	DC	AC/CD	AC	AC/DC	AC	AC/DC	AC	AC/DC	AC
Voltage [V]	12	24	100÷240	12	24	100÷240	24	100÷240	24	100÷240	24*	230
Power [W]	26	11	15	26	15	15	85	85	85	85	-	250
Working time [s]	8	20	20	20	60	60	30	30	50	50	-	38
Duty rating CEI34	30%	30%	50%	30%	50%	50%	50%	50%	50%	50%	-	50%
Protection	IP65	IP65	IP65	IP65	IP65	IP65	IP67	IP67	IP67	IP67	IP67	IP67

\* on request

Temperature	-10°C/+55°C		
Electrical connections	(DN40-100)	Power supply	DIN 43650 3P+T
		Limit switches	gland ISO M20
	(DN125-300)	Power supply	gland ISO M20
		Limit switches	gland ISO M20
Special versions on request	Different working times		
	IP67		
Actuator standard equipment	ATEX II 2 GD EEx d IIB T6		
	Emergency manual override		
	Visual position indicator		
	2 auxiliary and adjustable limit switches		
	Torque limiter		
Actuator accessories	Positioner 4-20 mA or 0-10 V		
	Fail safe security device (NC or NO)		
	Heating resistor		
	Feed back potentiometer 0.1 - 1 - 5 - 10 Kohm		
	4-20 mA position transmitter		
	2 additional limit switches		

# FE/CE



d [mm]		50	63	75	90	110	140	160	225
DN [mm]		40	50	65	80	100	125	150	200
SIZE [inch]		1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"

for materials and sizes available see manual valve FE

PN [bar]	<b>PVC-U</b>	16	16	10	10	10	10	10	10
16 bar = 232 psi									
10 bar = 150 psi									
PN [bar] Lug version		6	6	6	6	6	4	4	4
Kv100 [l/min]		1000	1285	1700	3550	5900	9850	18700	30500

Actuator data	DN 40-50-65			DN 80-100			DN 125-150		DN 200	
	DC	AC/DC	AC	DC	AC/CD	AC	AC/DC	AC	AC/DC	AC
Voltage [V]	12	24	100÷240	12	24	100÷240	24	100÷240	24	100÷240
Power [W]	26	11	15	26	15	15	85	85	85	85
Working time [s]	8	20	20	20	60	60	30	30	50	50
Duty rating CEI34	30%	30%	50%	30%	50%	50%	50%	50%	50%	50%
Protection	IP65	IP65	IP65	IP65	IP65	IP65	IP67	IP67	IP67	IP67

## Electrically actuated Butterfly Valve

Body material	PVC-U
Disc material	PVC-U
Stem material	Zinc plated steel
Seals materials	EPDM FPM (NBR on req.)

Temperature	-10°C/+55°C		
Electrical connections	(DN40-100)	Power supply	DIN 43650 3P+T
		Limit switches	gland ISO M20
	(DN125-300)	Power supply	gland ISO M20
		Limit switches	gland ISO M20
Special versions on request	Different working times		
	IP67		
	ATEX II 2 GD EEx d IIB T6		
Actuator standard equipment	Emergency manual override		
	Visual position indicator		
	2 auxiliary and adjustable limit switches		
	Torque limiter		
	Positioner 4-20 mA or 0-10 V		
Actuator accessories	Fail safe security device (NC or NO)		
	Heating resistor		
	Feed back potentiometer 0.1 - 1 - 5 - 10 Kohm		
	4-20 mA position transmitter		
	2 additional limit switches		

# S.11/S.21



## 2-Way Solenoid Valve

Body material	PVC-U
Seals materials	EPDM FPM

	S.11				S.21				
d [mm]	10-16	12-16	12-16		16-20	16-20	20		
DN [mm]	4	6	8		8	10	15		
R [inch]	3/8"	3/8"	3/8"	Type	3/8" - 1/2"	3/8" - 1/2"	1/2"	Type	
ISO-DIN metric series plain female ends	PVC-U	•	•	•	SI11	•	•	•	SI21
BSP series threaded female ends	PVC-U	•	•	•	SF11	•	•	•	SF21
BS socket welding	PVC-U	•	•	•	SL11	•	•	•	SL21
ASTM series plain female ends	PVC-U	•	•	•	SA11	•	•	•	SA21
NPT series threaded female ends	PVC-U	•	•	•	SN11	•	•	•	SN21
PN [bar] 6 bar = 87 psi 4 bar = 58 psi 2 bar = 29 psi	PVC-U	6	4	2		6	4	2	
Kv100 [l/min]		6,5	11	13,5		18,3	33,3	58,3	
Voltages	a.c. (*)	240 - 230 - 110 - 48 - 24		50/60 Hz					
	d.c.	110 - 48 - 24 - 12							
Power consumption	a.c.	12 VA				20 VA			
	d.c.	10.5 W				17.5 W			
Duty					100% ED				
Protection					IP65				

(\*) the coils are RAC (rectifier alternate current): use the plug supplied with the valve, that includes the rectifier.

# S.13/S.23



## 3/2-Way Solenoid Valve

Body material	PVC-U
Seals materials	EPDM FPM
Functions	DT MX NC NO

DT (diverter)  
 MX (mixer)  
 NC (normally closed)  
 NO (normally open)

	S.13				S.23				
d [mm]	10-16	12-16	12-16		16-20	16-20	20		
DN [mm]	4	6	8		8	10	15		
R [inch]	3/8"	3/8"	3/8"	Type	3/8"-1/2"	3/8"-1/2"	1/2"	Type	
ISO-DIN metric series plain female ends	PVC-U	●	●	●	SI13	●	●	●	SI23
BSP series threaded female ends	PVC-U	●	●	●	SF13	●	●	●	SF23
BS socket welding	PVC-U	●	●	●	SL13	●	●	●	SL23
ASTM series plain female ends	PVC-U	●	●	●	SA13	●	●	●	SA23
NPT series threaded female ends	PVC-U	●	●	●	SN13	●	●	●	SN23
PN [bar]	NC	2.5	1.2	0.6		2.5	1.5	0.5	
	MX	1	0.5	0.4		1.5	1	0.5	
	NO	2.5	1.2	0.6		3	1.5	1	
	DT	4	2.5	1.5		6	4	2	
Kv100 [l/min]	NC	6.2	9.6	12.8		16.3	30	56.6	
	MX	6.3	10.8	13.3		17.5	30.8	57.5	
	NO	6.4	10	13		15.8	29	55.8	
	DT	6.8	11.6	13.8		20	32.5	60.3	
Voltages	a.c. (*)	240 - 230 - 110 - 48 - 24			50/60 Hz				
	d.c.	110 - 48 - 24 - 12							
Power consumption	a.c.	12 VA				20 VA			
	d.c.	10.5 W				17.5 W			
Duty					100% ED				
Protection					IP65				

(\*) the coils are RAC (rectifier alternate current): use the plug supplied with the valve, that includes the rectifier.

## STANDARD REFERENCES ( dimensions )

	Solvent Welding		Socket Fusion		Threaded couplings	Flanged couplings	Butterfly Valves overall dimensions
		Relevant Pipe Standard		Relevant Pipe Standard			
<b>PVC-U</b>	ISO 727	ISO 161/1			UNI ISO 228/1	DIN 2501	(all materials) DIN 2501 ISO DIS 9624 UNI 2223 BS 10 table D/E ASA B16.5 class 150 JIS 2212 K10 (except for DN 200/DN300) JIS 2212 K5 (except for DN 50)
	UNI EN 1452	UNI EN 1452			DIN 2999	ISO 2084	
	DIN 8063	DIN 8062			BS 21	UNI 7442/75	
	NF T54-028	NF T54-016			ASTM 2464/76	DIN 8063	
	BS 4346/1	BS 3506, BS 3505			ANSI B1.20.1	ASA ANSI B.16.5 150	
	ASTM 2467/6a	ASTM D 1785/76					
<b>PP-H</b>			DIN 16962	DIN 8077	UNI ISO 228/1	ISO 2084	
				EN ISO 15494	DIN 2999	UNI EN 1452	
				UNI 8318	BS 21	DIN 8063	
						ASA ANSI B.16.5 150	
<b>PVDF</b>			ISO 10931	ISO 10931/2		DIN 2501	
						ISO 2084	
						UNI 7442/75	
						DIN 8063	
						ASA ANSI B.16.5 150	
<b>PVC-C</b>	ISO 727	EN ISO 15493			ASTM 2464/76	ISO 2084	
	EN ISO 15493	DIN 8079/8080			ANSI B1.20.1	UNI 7442/75	
	ASTM F439	ASTM D 1785/76				DIN 8063	
						ASA ANSI B.16.5 150	






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