

CARTEN

FLOW SOLUTIONS - **WE GO BEYOND**

INTRODUCING CARTEN'S BNW BLOCK SERIES SANITARY DIAPHRAGM VALVES



BNW Block Series

Sanitary Diaphragm Valves

The BNW block series contains all the advantages of the BNW standard series, with bespoke designs and features ensuring minimum hold-up volume.

Key Features

Available in line sizes up to 4"

Single polymer bonnet external seal

Pneumatic or manual interchangeability

Standard & bespoke multiport / block options

Typical Applications

Shut-off functionality, control functionality, back-pressure control, automated and with switching/signalling for all upstream and downstream processes (bioreactor, filtration, chromatography, centrifugation etc)

Key Specifications

Materials of Construction	Cleanliness	Specifications	Options
316L stainless body	Manufactured in Clean White Room	100% Leak tested as per ASME BPE / ANSI FCI 70/2 Class VI	Manual or pneumatic
TFM1600 / Reinforced EPDM Diaphragm	Helium leak-tight external sealing	USP Class VI <87><88>	Multiple block orientations and configurations
Barstock / forging-only source	SIP-validated	Electropolished as per ASME BPE, ASTM A967	4/20mA switching / signalling automation
Stainless thin-wall (deep-drawn) actuator		Passivated as per ASME BPE, ASTM B912	Instrumentation
		6 - 200 Cv (flow coefficient)	



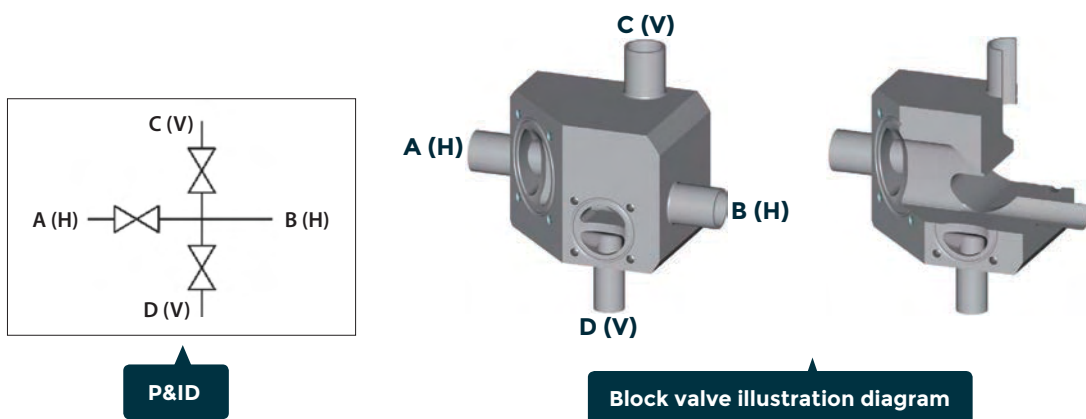
How to select block valves

1. Decide on the required number of ports and number of top-works.
2. Confirm the arrangement of ports and valves using a P&ID (piping and instrumentation diagram).
3. Please select the type based on the P&ID and the block valve illustrations.
4. Please enter the type and information on connections, actuators, and accessories on the block valve selection specifications.
5. If the desired type is not available, note information on the P&ID, size, etc. on the block valve selection specification and submit an inquiry to Carten.

4 ports 3 valves = Number of ports and number of valves

V: Vertical H: Horizontal

Type - MB43E = Type name



Block valves selection specifications Entry example

Refer to p. 59

Type: MB43E

Please sketch the associated drawing or record the P&ID.

P&ID (piping and instrumentation diagram) section

Piping ports: A, B, C, ...

Piping orientation: V = vertical piping, H = horizontal piping

Flow direction: →

Valve symbol:

Working pressure: 0

Temperature: 130 °C

Body material: SUS316L

Diaphragm wetted surface material:

☒ PTFE

☐ EPDM

Piping standards:

☒ ISO/IDF

☐ ASME BPE

☐ OTHER

Actuator description codes

Actuation type:

- Manual: M
- Automatic (normal close): N.C.
- Automatic (normal open): N.O.
- Automatic (double action): D.A.

Actuator types:

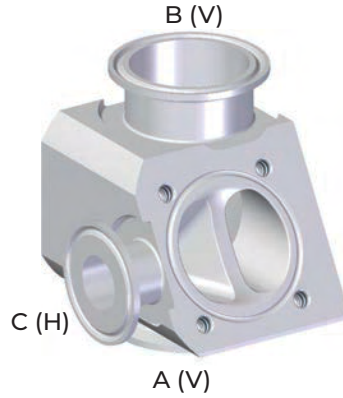
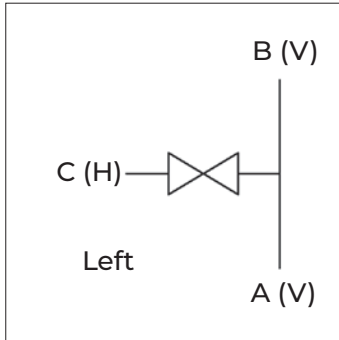
- Standard type, aluminum material: A
- Standard type, stainless steel material: U
- Low pressure type, aluminum material: LA
- Low pressure type, stainless steel material: LU

Port No.	Piping orientation (V/H)	Piping size	Connection type	Valve No.	Actuator		Other
					Drive type	Actuator type	
A	H	1.5S	Ferrule	V1	NC	A	With limit switch
B	H	1.5S	Ferrule	V2	M	U	
C	V	1.5S	BW	V3	NC	LA	
D	V	1S	BW	V4			
E				V5			
F				V6			
G				V7			
H				V8			
I				V9			
J				V10			

3 ports 1 valves

V: Vertical H: Horizontal

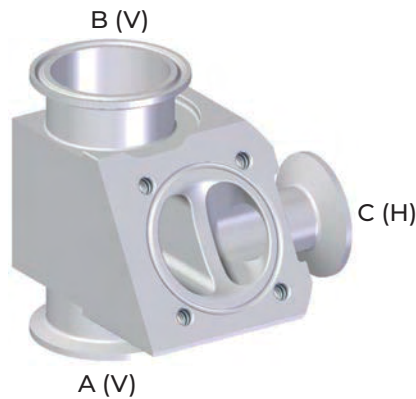
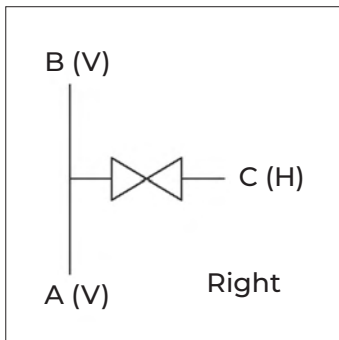
Type - S31AL



3 ports 1 valves

V: Vertical H: Horizontal

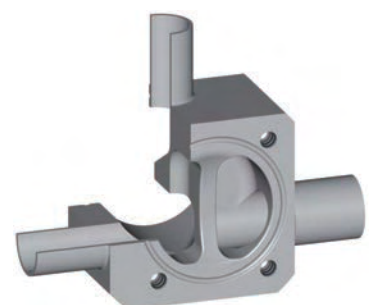
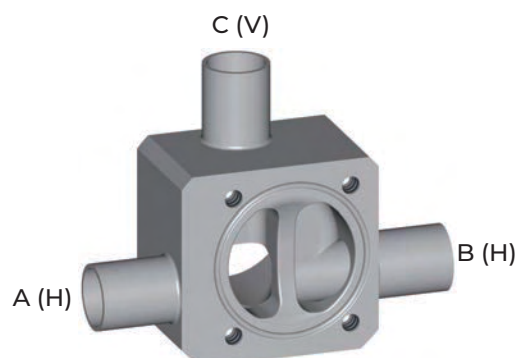
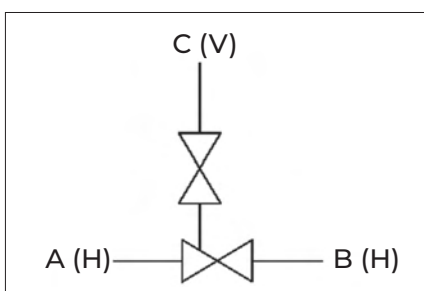
Type - S31AR



3 ports 2 valves

V: Vertical H: Horizontal

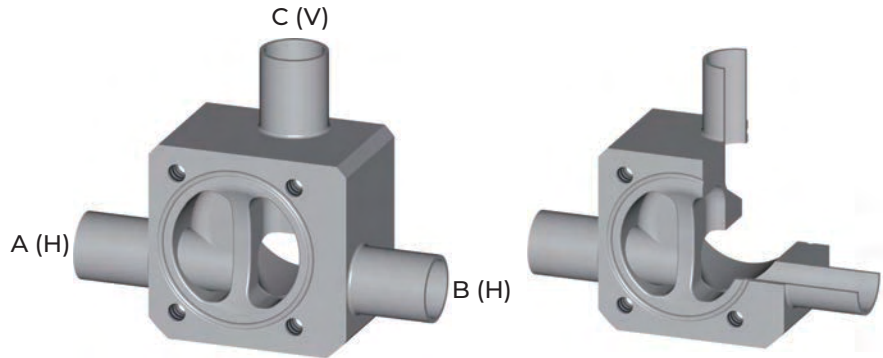
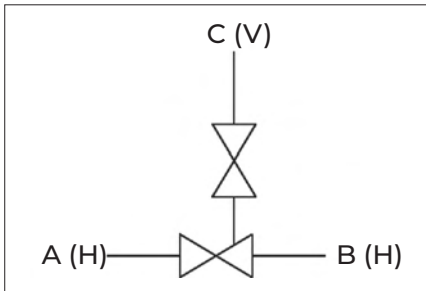
Type - B32AL



3 ports 2 valves

Type - B32AR

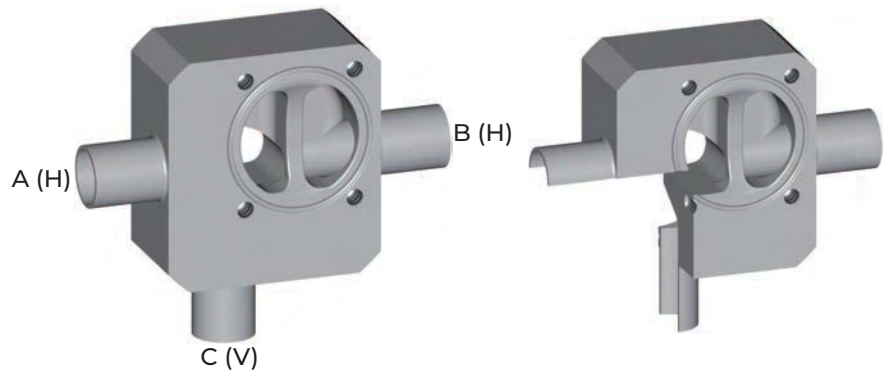
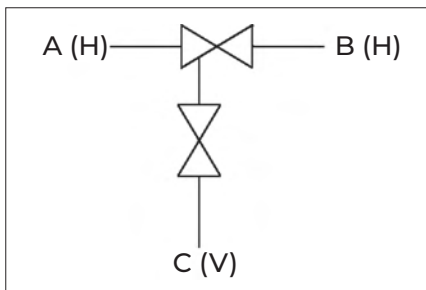
V: Vertical H: Horizontal



3 ports 2 valves

Type - B32BL

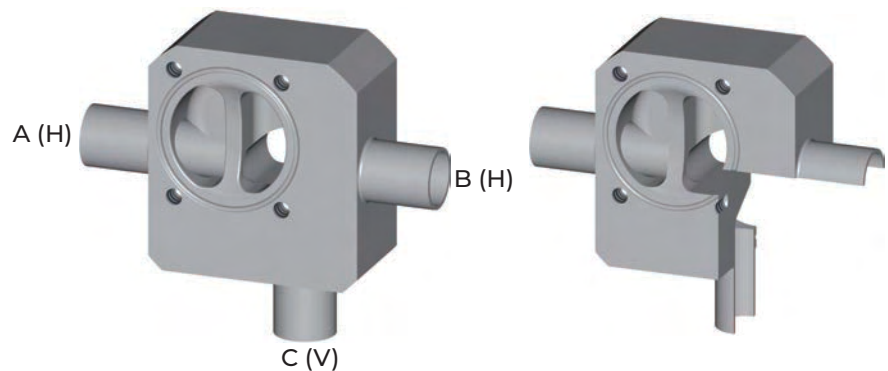
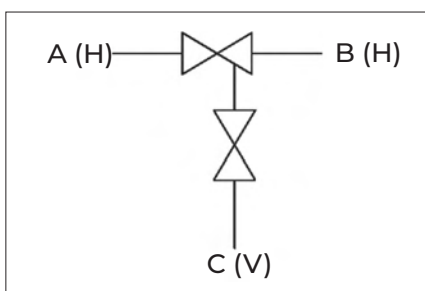
V: Vertical H: Horizontal



3 ports 2 valves

Type - B32BR

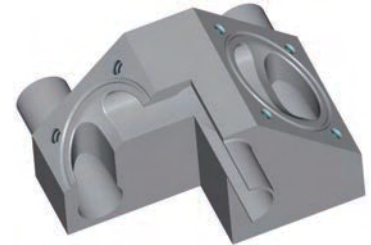
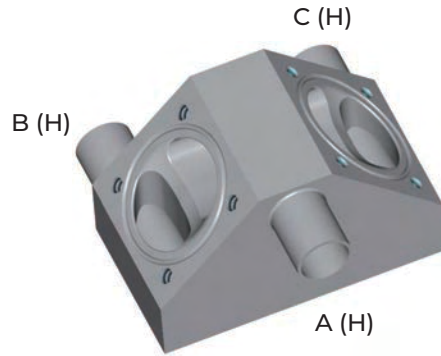
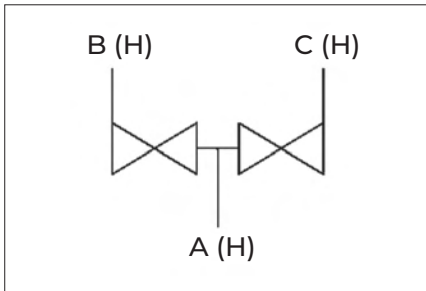
V: Vertical H: Horizontal



3 ports 2 valves

V: Vertical H: Horizontal

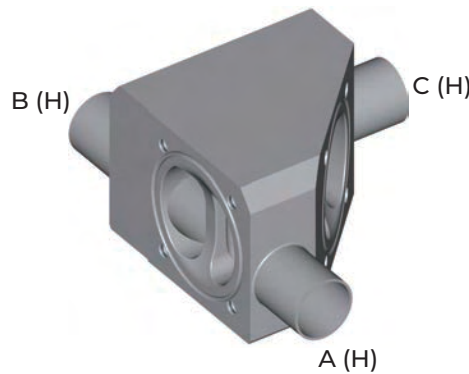
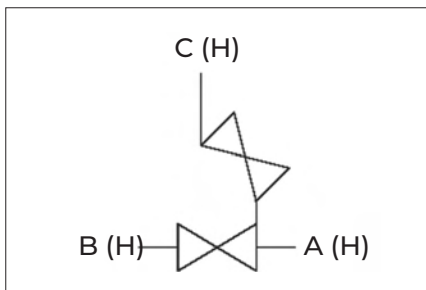
Type - B32C



3 ports 2 valves

V: Vertical H: Horizontal

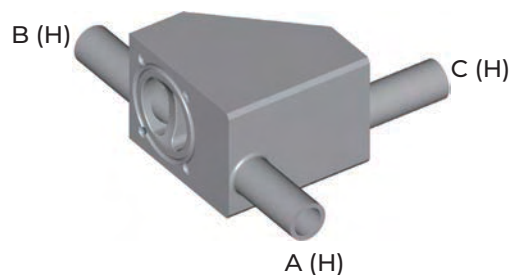
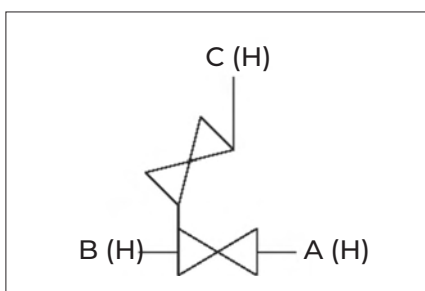
Type - B32DR



3 ports 2 valves

V: Vertical H: Horizontal

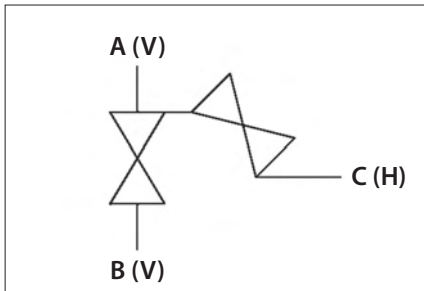
Type - B32DL



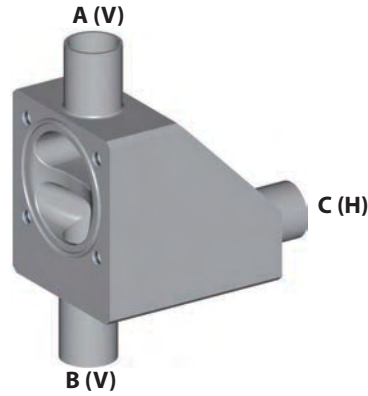
3 ports 2 valves

V: Vertical H: Horizontal

Type - B32ET



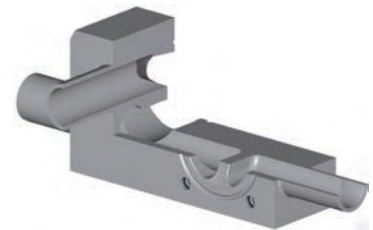
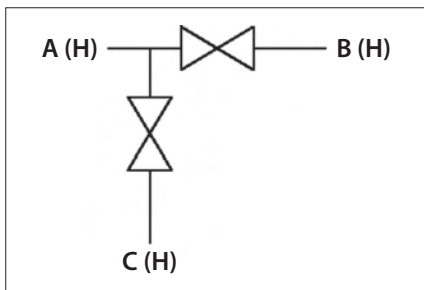
*: Blocks with downward ports (type B32EB) can also be produced



3 ports 2 valves

V: Vertical H: Horizontal

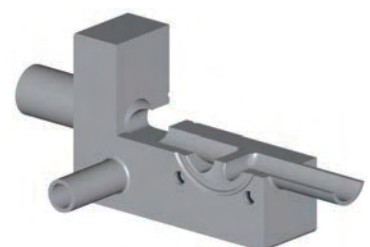
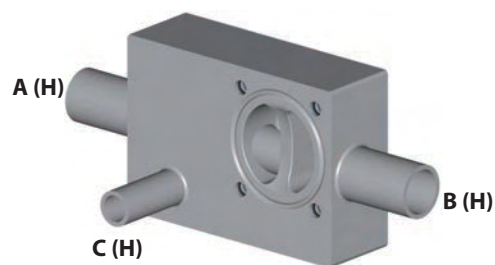
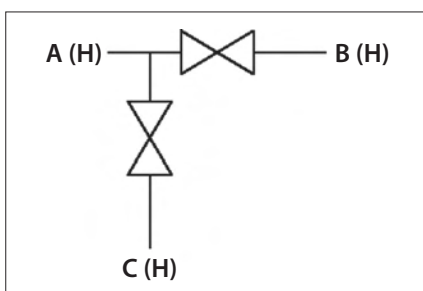
Type - B32FT



3 ports 2 valves

V: Vertical H: Horizontal

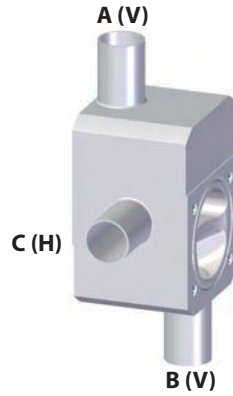
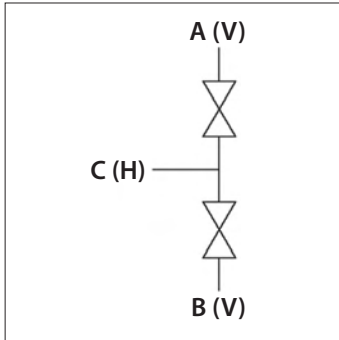
Type - B32FB



3 ports 2 valves

V: Vertical H: Horizontal

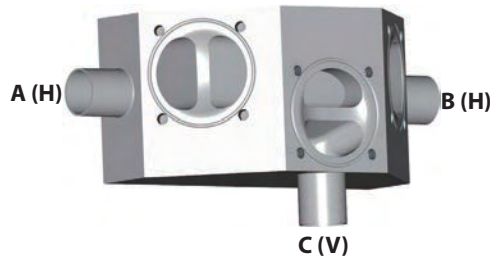
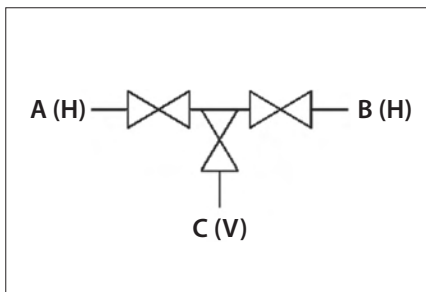
Type - B32G



3 ports 3 valves

V: Vertical H: Horizontal

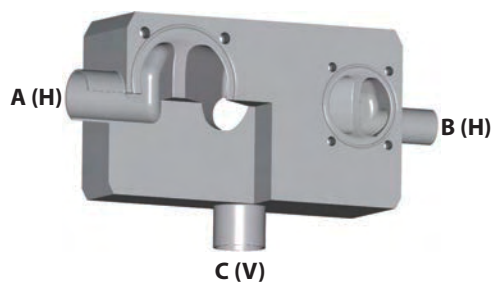
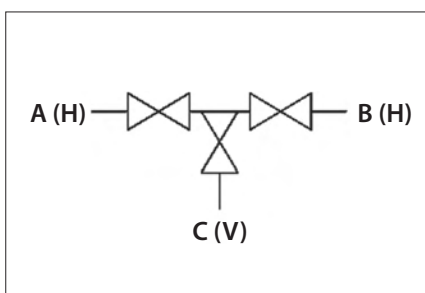
Type - MB33A



3 ports 3 valves

V: Vertical H: Horizontal

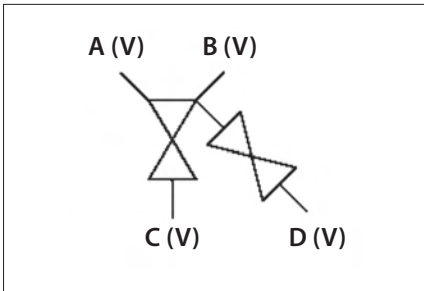
Type - MB33B



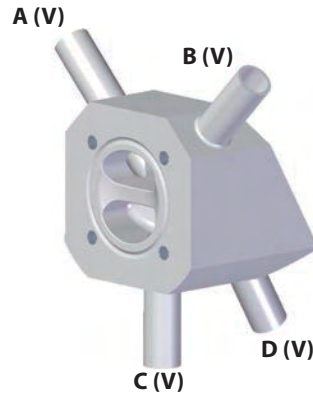
4 ports 2 valves

Type - MY42AT

V: Vertical H: Horizontal



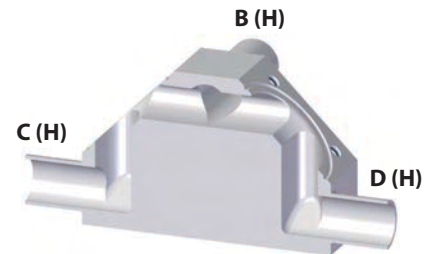
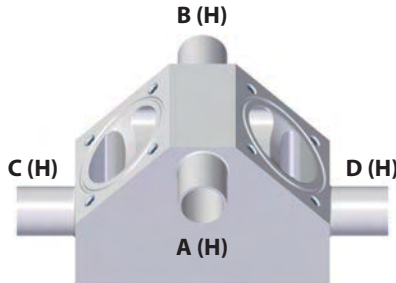
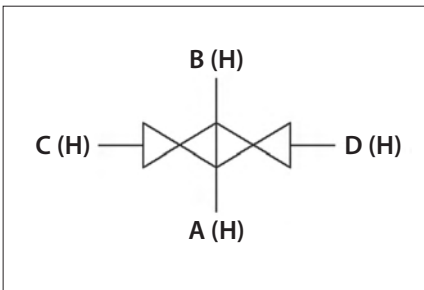
*: Blocks with downward ports (type B42AB) can also be produced



4 ports 2 valves

Type - MB42A

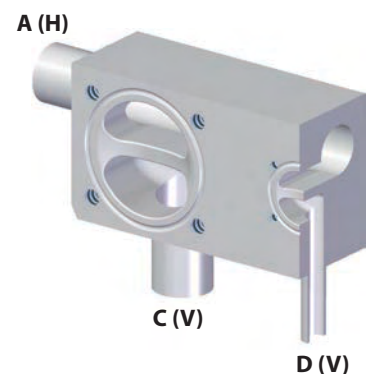
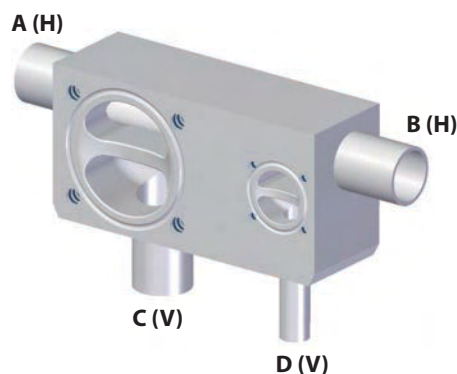
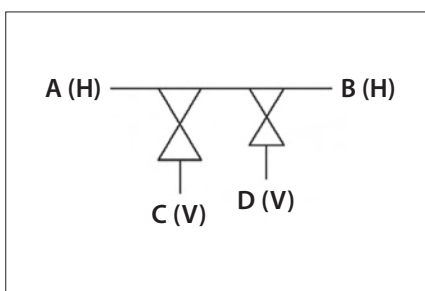
V: Vertical H: Horizontal



4 ports 2 valves

Type - MS42AR

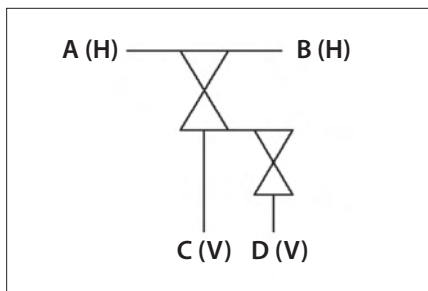
V: Vertical H: Horizontal



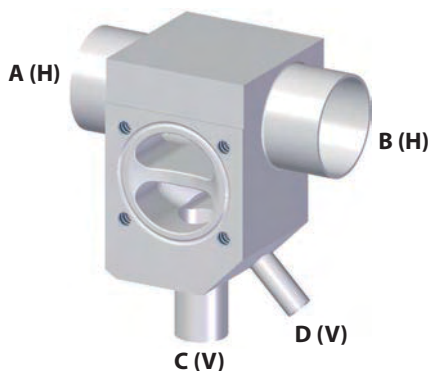
4 ports 2 valves

V: Vertical H: Horizontal

Type - MS42BR



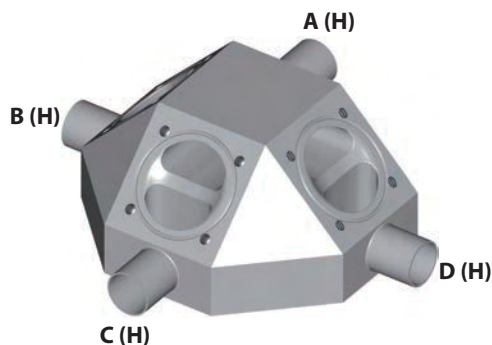
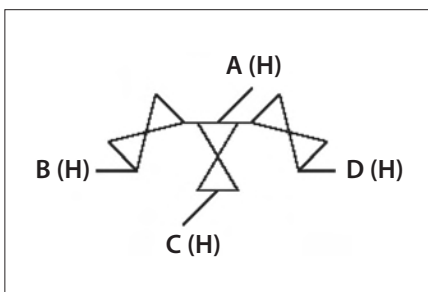
*: Blocks with leftward ports (type B42BL) can also be produced



4 ports 3 valves

V: Vertical H: Horizontal

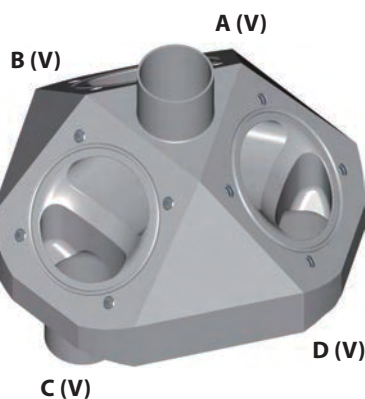
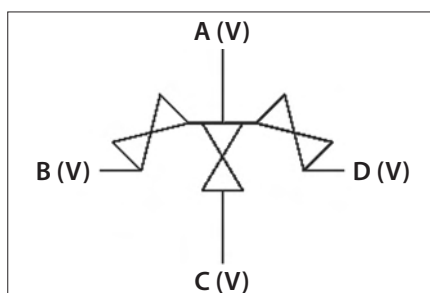
Type - MB43A



4 ports 3 valves

V: Vertical H: Horizontal

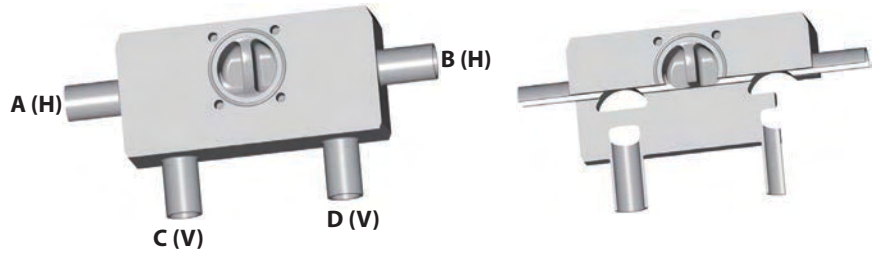
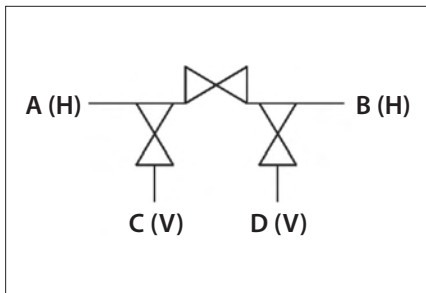
Type - MB43B



4 ports 3 valves

Type - MB43C

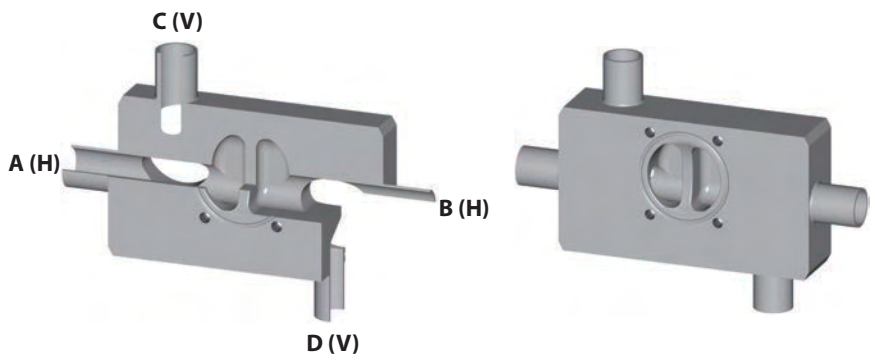
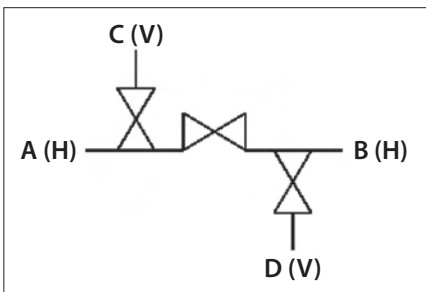
V: Vertical H: Horizontal



4 ports 3 valves

Type - MB43D

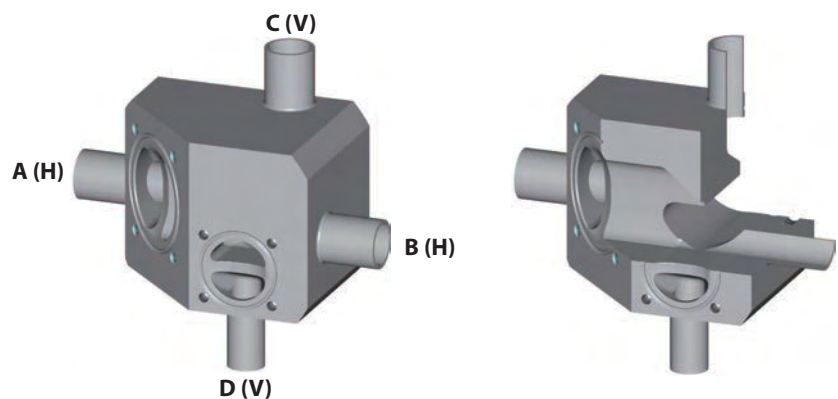
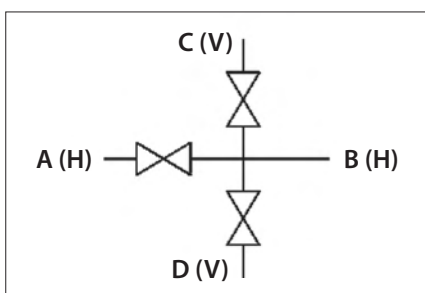
V: Vertical H: Horizontal



4 ports 3 valves

Type - MB43E

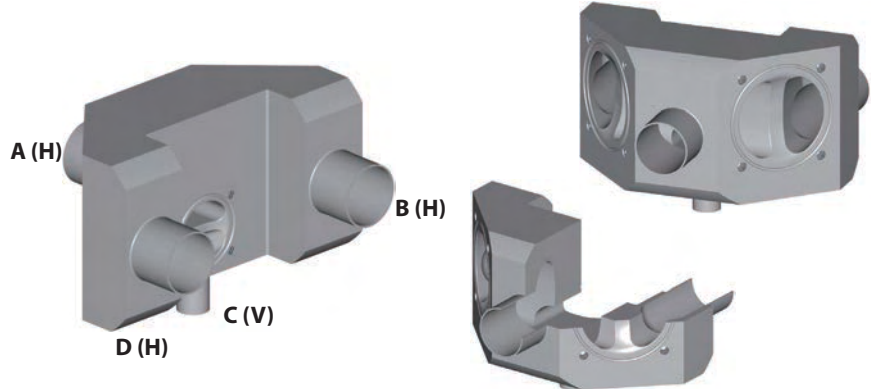
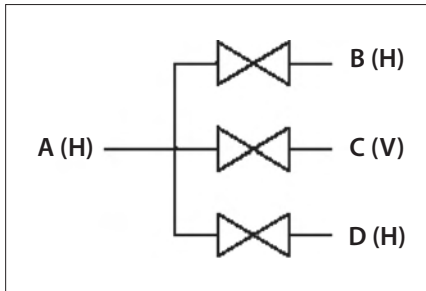
V: Vertical H: Horizontal



4 ports 3 valves

Type - MB43F

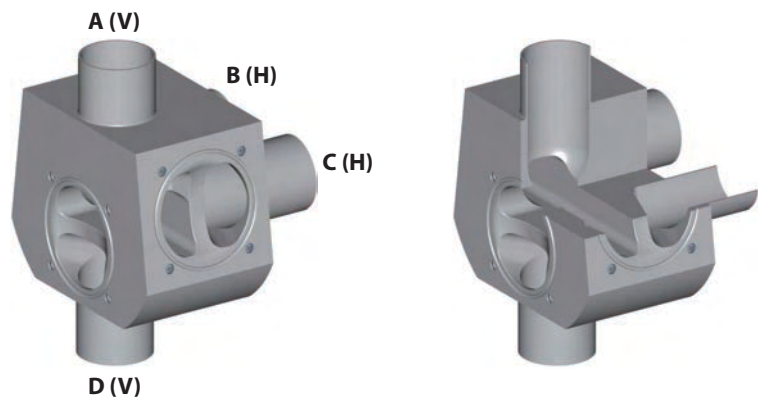
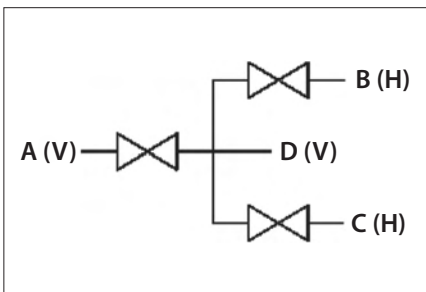
V: Vertical H: Horizontal



4 ports 3 valves

Type - MB43G

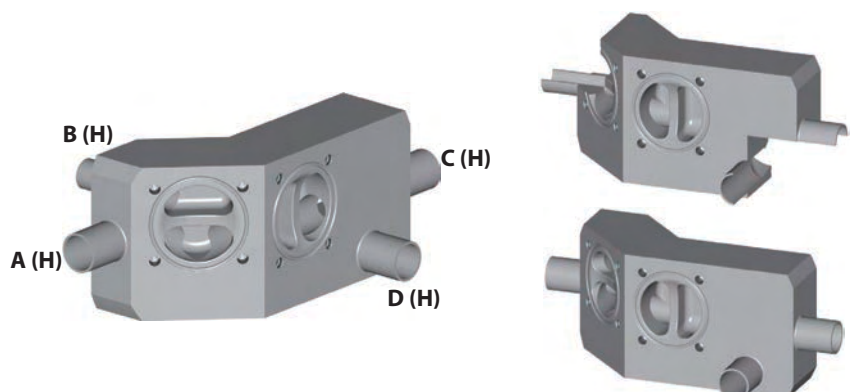
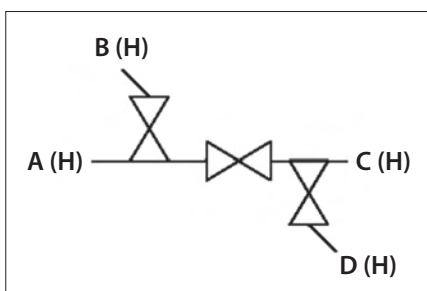
V: Vertical H: Horizontal



4 ports 3 valves

Type - MB43H

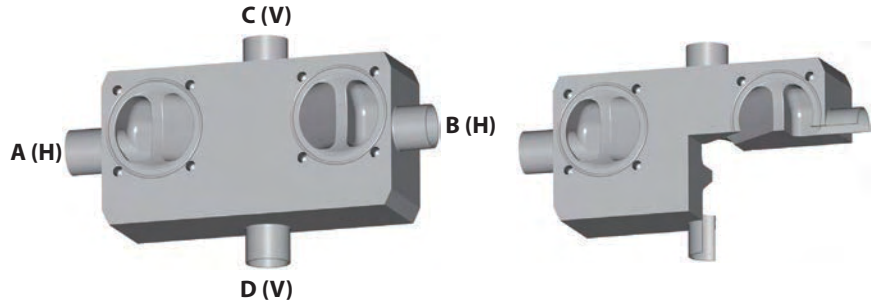
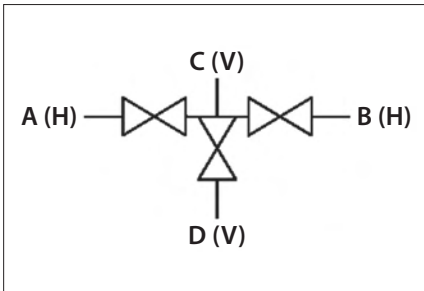
V: Vertical H: Horizontal



4 ports 3 valves

V: Vertical H: Horizontal

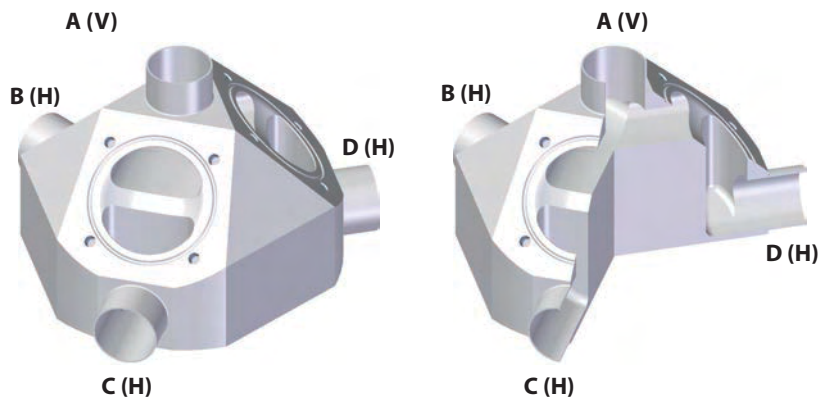
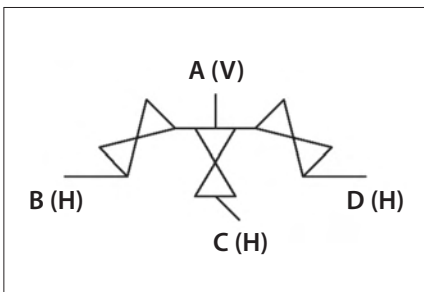
Type - MB43I



4 ports 3 valves

V: Vertical H: Horizontal

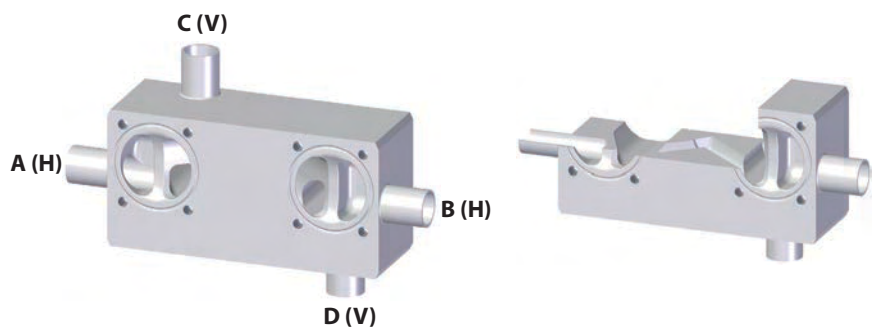
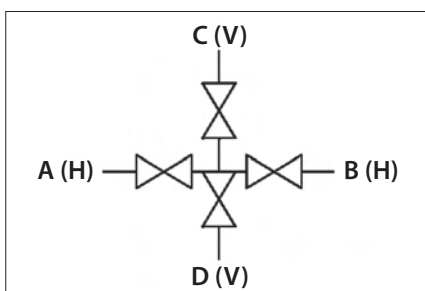
Type - M43A



4 ports 4 valves

V: Vertical H: Horizontal

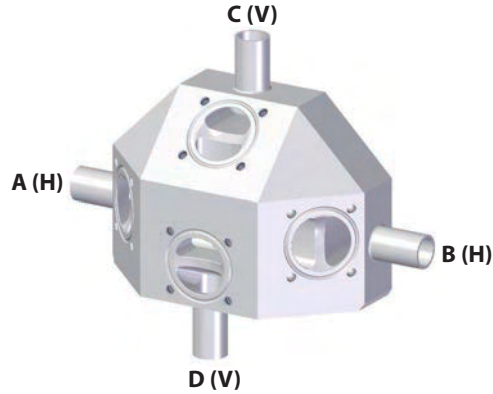
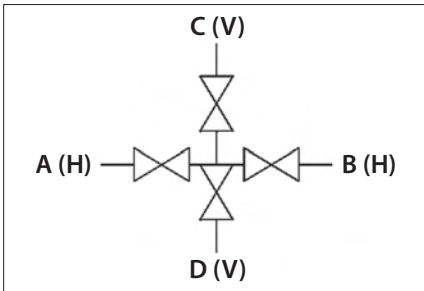
Type - MB44A



4 ports 4 valves

V: Vertical H: Horizontal

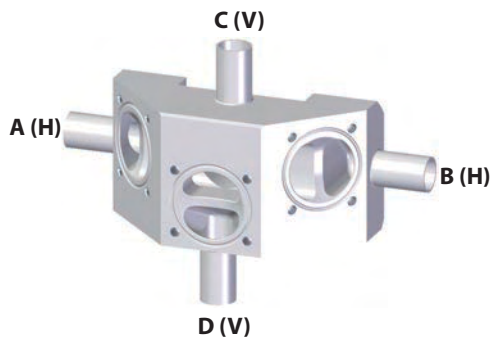
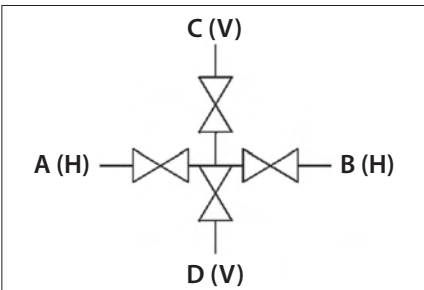
Type - MB44B



4 ports 4 valves

V: Vertical H: Horizontal

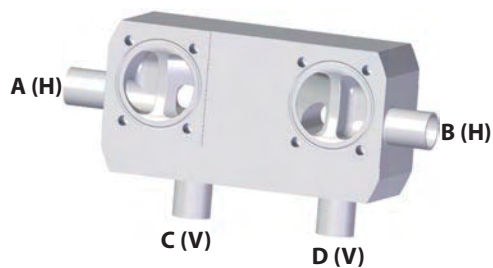
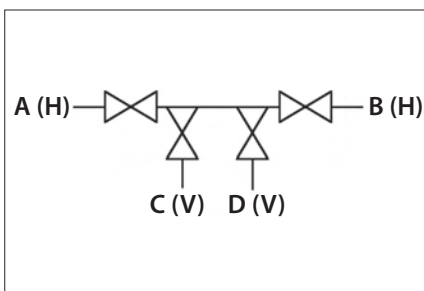
Type - MB44C



4 ports 4 valves

V: Vertical H: Horizontal

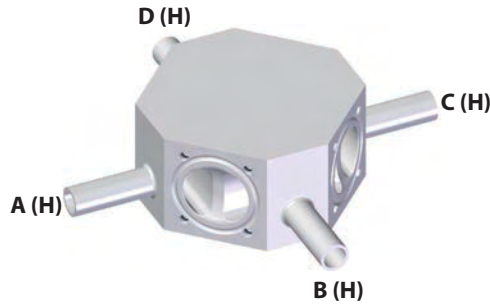
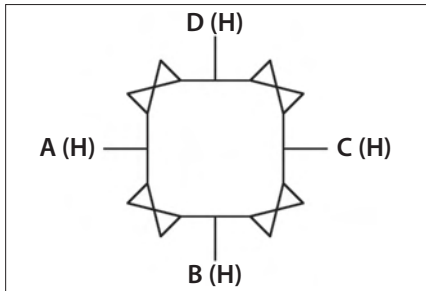
Type - MB44D



4 ports 4 valves

V: Vertical H: Horizontal

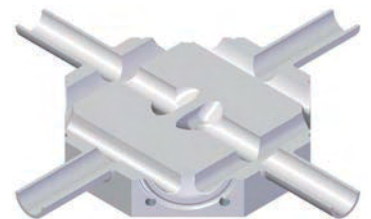
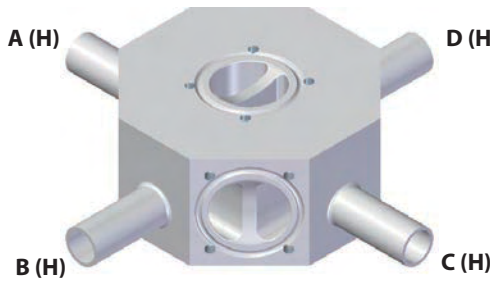
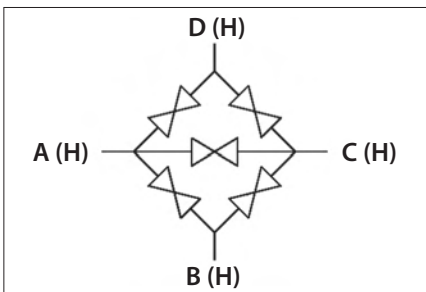
Type - MB44E



4 ports 5 valves

V: Vertical H: Horizontal

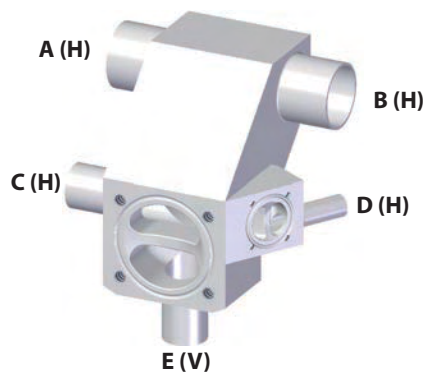
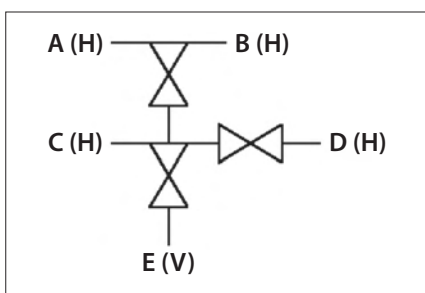
Type - MB45A



5 ports 3 valves

V: Vertical H: Horizontal

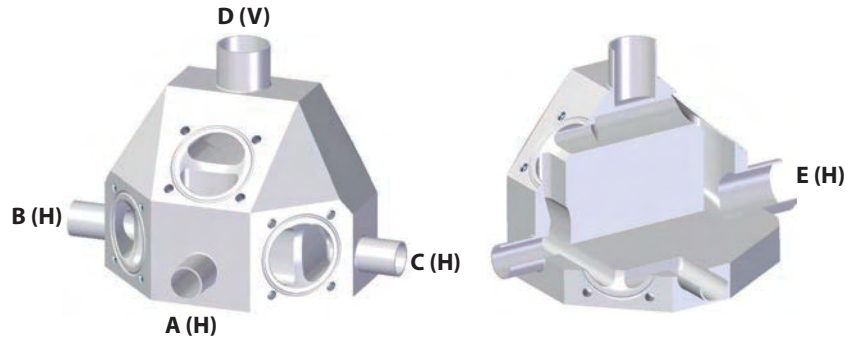
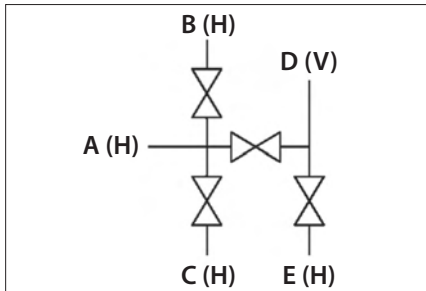
Type - MB53A



5 ports 4 valves

Type - MB54A

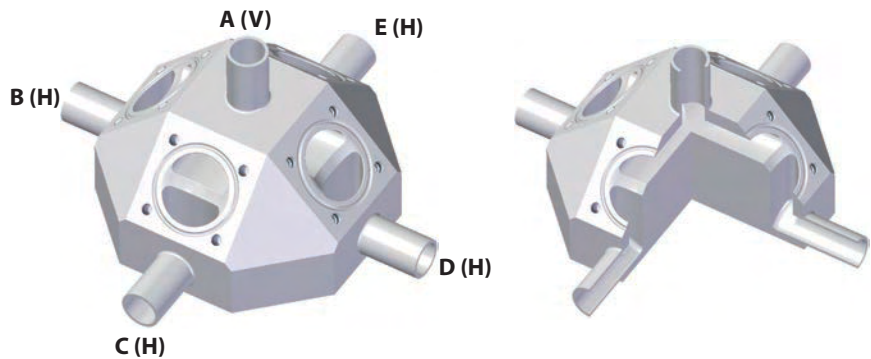
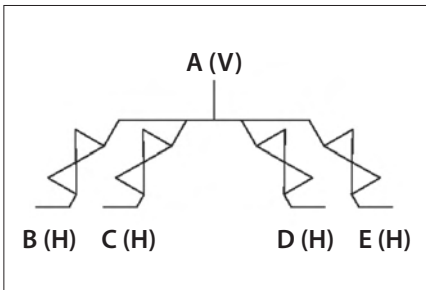
V: Vertical H: Horizontal



5 ports 4 valves

Type - MB54B

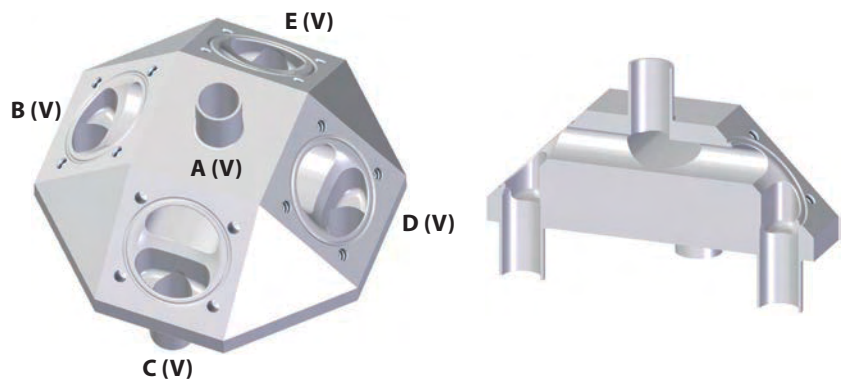
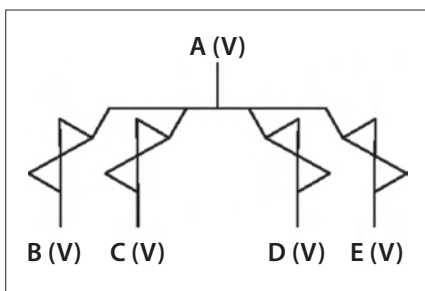
V: Vertical H: Horizontal



5 ports 4 valves

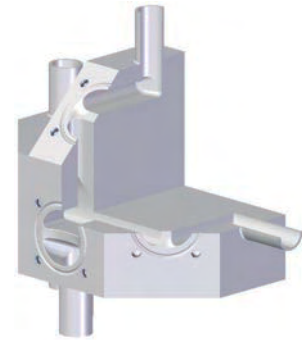
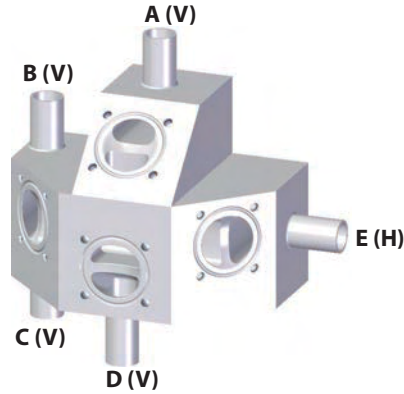
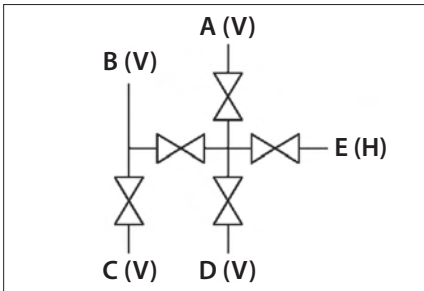
Type - MB54C

V: Vertical H: Horizontal



5 ports 5 valves

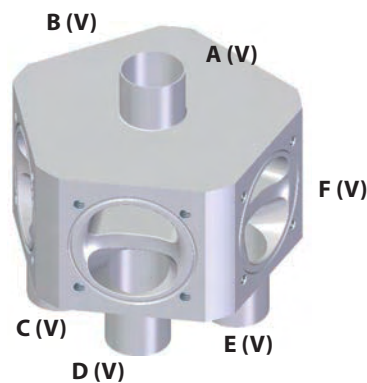
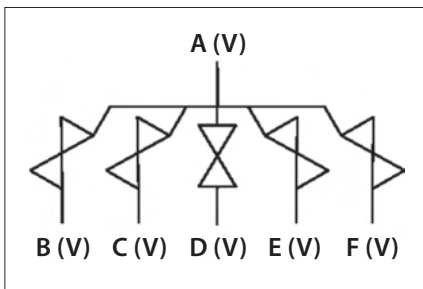
Type - MB55A



V: Vertical H: Horizontal

6 ports 5 valves

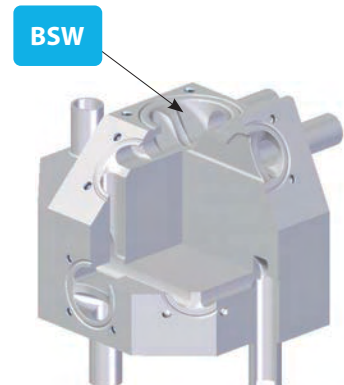
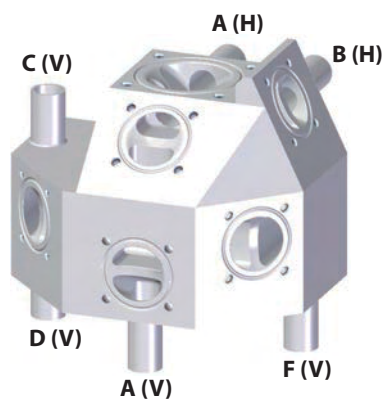
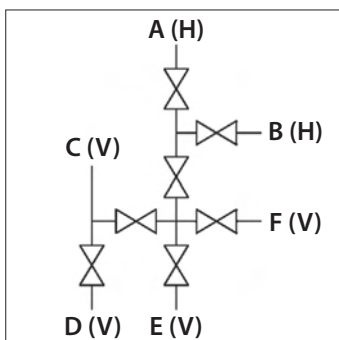
Type - MB65A



V: Vertical H: Horizontal

6 ports 7 valves

Type - MB67A



V: Vertical H: Horizontal

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