Block and Tank Valve Solutions for pharmaceutical applications

bürkert
FLUID CONTROL SYSTEMS

Content

- More than 3,300 satisfied OEMs, end customers and plant manufacturers in the pharmaceutical & biotech sector
- For more than 30 years we successfully meet all hygienic requirements

Robolux multiway, multiport diaphragm valve solution for AstraZeneca

Block solutions integrated in continuous chromatography skid by YMC

General Block Valve information

The markets and applications for Block and Tank Valve Solutions are very diverse.

Main industries:

- Pharmaceutical Production
- Biotechnology
- Chemical Processing

Main functions:

- Collecting
- Distribution
- Diverting
- Sampling
- Filling
- Mixing and blending
- Discharging
- Bypassing or isolation
- Automatic switch over

Main applications:

- Water systems
- Fermentation/Bioreactors
- Purification
- Filtration
- Chromatography
- CIP/SIP Systems

Block solution for manufacturing of infusion solutions for one of the leading manufacturers of infusions, clinical nutrition, drugs and medical products based in Hessen, Germany

Tank bottom valve system with integrated level sensor on a preparation tank for Unither Pharmaceuticals.

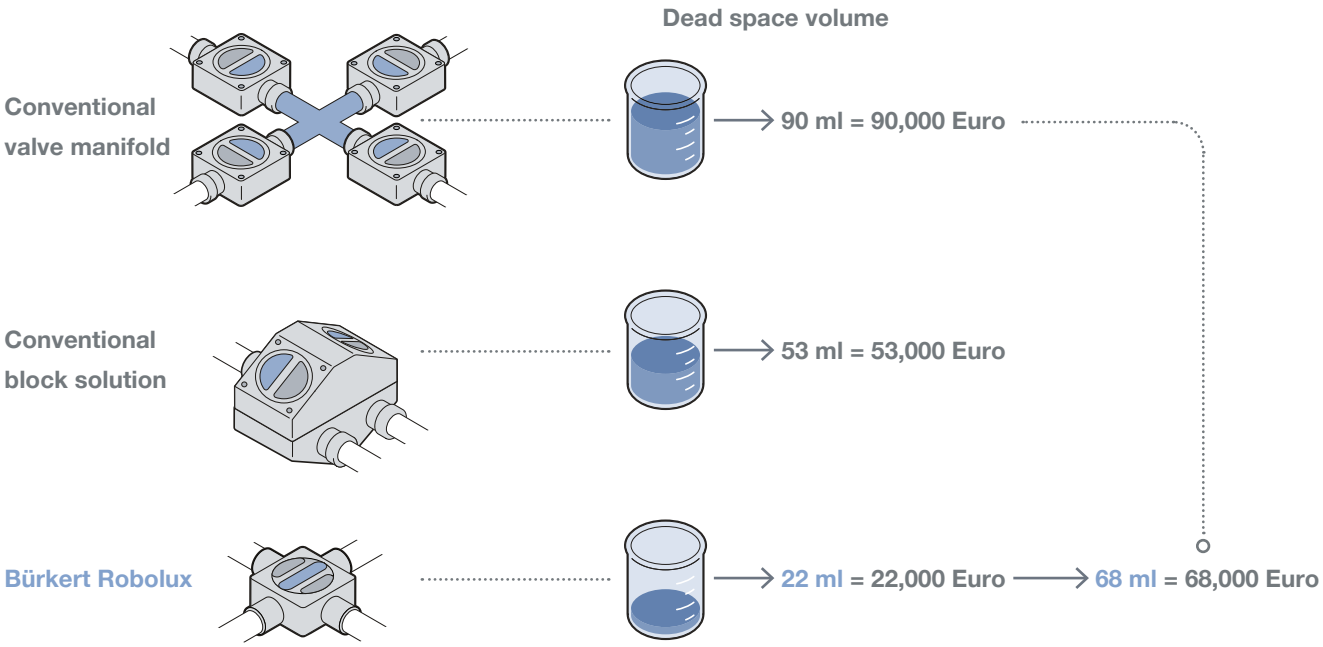
Bürkert Block Valve Solutions

Example calculation

Greater productivity thanks to smaller dead space: Three fluidic concepts result in three differently sized dead spaces. Your productivity improves if you can reduce dead spaces and thus minimise product mixing.

The following example calculation shows potential savings using a fictitious value of €100,000 per 100 ml of the final chromatography product as an example.

Drastically reduced hold up volumes



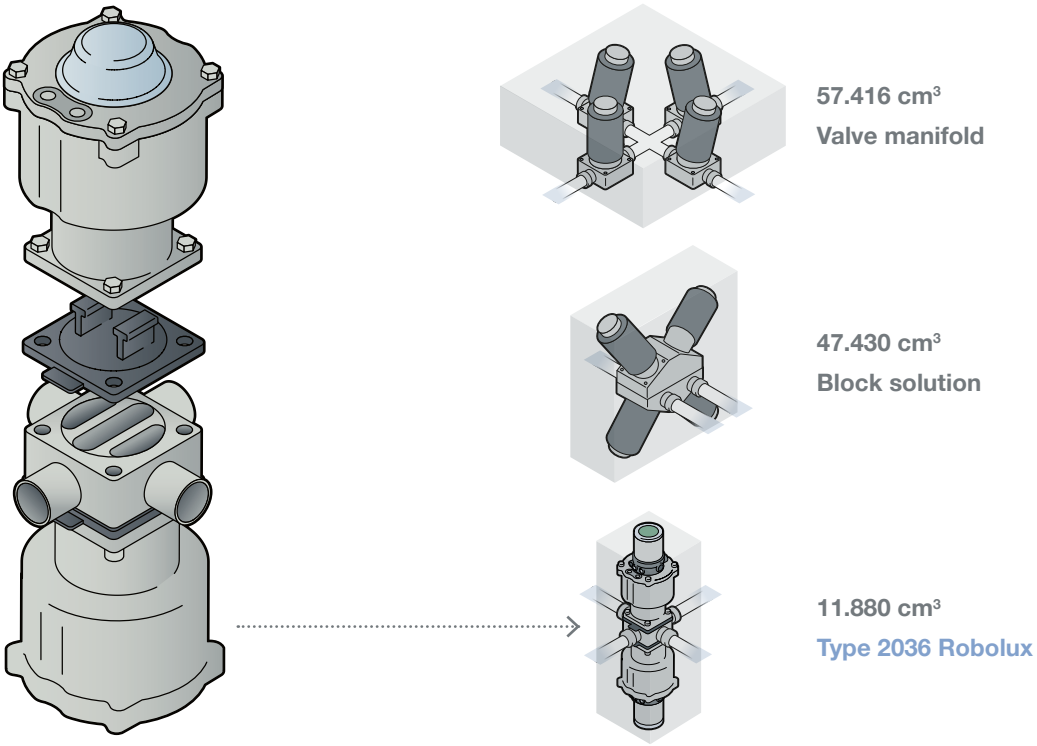
Main diaphragm valve configurations have largely been replaced by modern Block Valve Solutions.

Main advantages of Block Valve Solutions are the reduced hold up volume, foot print and compactness. The hygienic design without internal welding enables complex designs which are not feasible with traditional welded configurations.

New thinking, new technology, new design.

The patented Robolux twin-weir diaphragm valve system even exceeds the single weir block solutions in its compactness. This further evolution of the design virtually eliminates dead legs in some configurations completely and reduces the internal hold up volume to its absolute minimum. Due to the further reduced weight this design is quicker to heat up and cool down.

Drastically reduced space requirements



Two seats are oriented under one actuator which speeds up the maintenance as only one diaphragm for both seats has to be exchanged. Further time savers are the 4 spacer sleeves in the diaphragm for the fixing bolts as they allow a defined torque rate at the same time allowing enough flexibility of the sealing material. No retightening is required after initial assembling of the diaphragm.

The latest modern state of the art development is the merge of both systems. The patented Robolux twin-weir diaphragm valve system in combination with the traditional single-weir design creates a globally unique technology level.

This new technology drives the edge of feasibility even higher and not only meets the stringent requirements of a highly demanding industry but even driving the limits further.

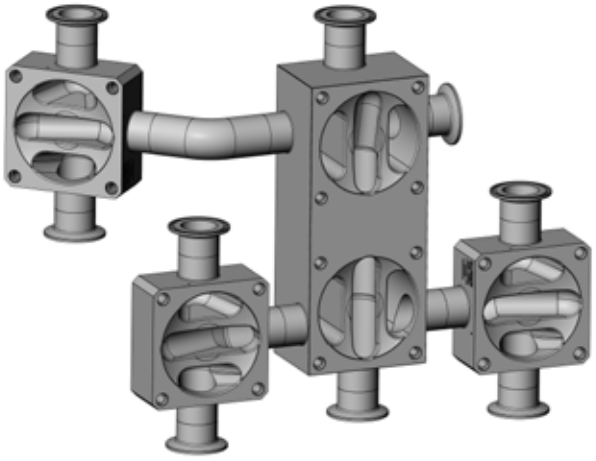
Bürkert block valve competence

20 years of experience in manufacturing of individual block design and standardized block configurations.
For further info see www.burkert.com/diaphragmvalves

Individual block design

See page 61 onwards

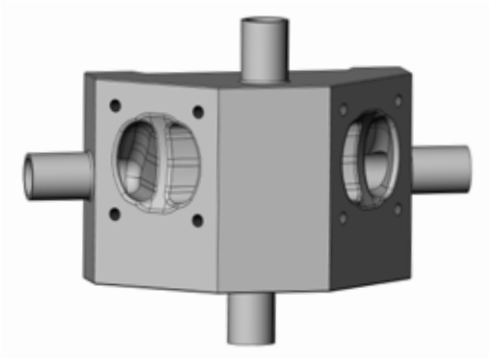
- flexible and compact design prepared for individual installation position
- optimized draining
- minimum dead leg
- minimum hold up volume
- reduced number of welding seams
- complete block welding solutions



Standardized block configurations

See page 17 onwards

- standardized functions and P&ID´s
- minimum hold up volume
- designed for all available actuator types
- reduced number of welding seams
- minimum dead leg



Basic Information

Seat size

DN08 - DN100
Robulux RV50 – RV110

Actuators

Manual actuator

Robolux actuator

Inox actuator

ELEMENT actuator

Electric linear actuator

CLASSIC pneumatic actuator

Diaphragms

EPDM code AD
EPDM/PTFE two piece code EA
EPDM/PTFE two piece code EU
EPDM/PTFE-Gylon® bonded code ER

Polishing surface

Mechanical polishing, electrical polishing
Internal polishing, external polishing

Tube connections

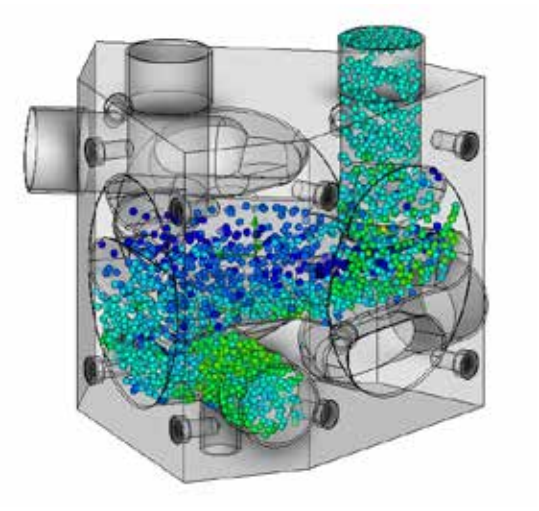
Welding connection

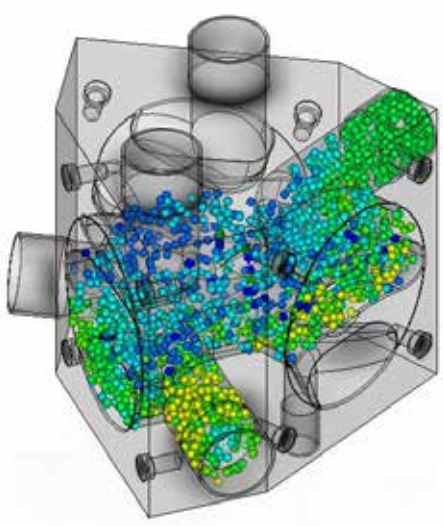
DN [mm]	NPS	DIN EN ISO 1127 ISO 4200 DIN 11866 Series B	SMS 3008 ISO 2037	DIN 11850 Series 0	DIN 11850 Series 1 DIN EN 10357 Series B	DIN 11850 Series 2 DIN EN 10357 Series A DIN 11866 Series A	DIN 11850 Series 3	BS 4825	ASME BPE DIN 11866 Series C	JIS G 3447	JIS G 3459	ASME B36.19M SCHEDULE 10S
4.0	–	–	–	SC40 6.0x1.0	–	–	–	–	–	–	–	–
6.0	1/8"	SA78 10.2x1.6	–	SC41 8.0x1.0	–	–	–	–	SA89 3.17x0.56	–	–	–
8.0	1/4"	SA40 13.5x1.6	–	SC42 10.0x1.0	–	–	–	SODB 6.35x1.2	SA90 6.35x0.89	SA70 13.8x1.65	–	–
10.0	3/8"	SA41 17.2x1.6	–	–	SF40 12.0x1.0	SD40 13.0x1.5	SE40 14.0x2.0	SODC 9.53x1.2	SA91 9.53x0.89	SA71 17.3x1.65	–	–
15.0	1/2"	SA42 21.3x1.6	–	SC43 18.0x1.5	SF41 18.0x1.0	SD42 19.0x1.5	SE42 20.0x2.0	SODD 12.7x1.2	SA92 12.7x1.65	SA72 21.7x2.11	–	SA30 21.3x2.11
20.0	3/4"	SA43 26.9x1.6	–	SC44 22.0x1.5	SF42 22.0x1.0	SD43 23.0x1.5	SE43 24.0x2.0	SODE 19.05x1.2	SA93 19.05x1.65	–	SA80 27.2x2.1	SA31 26.7x2.11
25.0	1"	SA44 33.7x2.0	SA60 25.0x1.2	SC45 28.0x1.5	SF43 28.0x1.0	SD44 29.0x1.5	SE44 30.0x2.0	SODF 25.4x1.65	SODF 25.4x1.65	SA73 25.4x1.2	SA81 34x2.0	SA32 33.4x2.77
32.0	1 ¼"	SA45 42.4x2.0	SA61 33.7x1.2	SC46 34.0x1.5	SF44 34.0x1.0	SD45 35.0x1.5	SE45 36.0x2.0	–	–	–	SA82 42.7x2.0	SA33 42.2x2.77
40.0	1 ½"	SA46 48.3x2.0	SA62 38.0x1.2	SC47 40.0x1.5	SF45 40.0x1.0	SD46 41.0x1.5	SE46 42.0x2.0	SODH 38.1x1.65	SODH 38.1x1.65	SA74 38.1x1.2	SA83 48.6x2.0	SA34 48.3x2.77
50.0	2"	SA47 60.3x2.0	SA63 51.0x1.2	SC48 52.0x1.5	SF46 52.0x1.0	SD47 53.0x1.5	SE47 54.0x2.0	SODI 50.8x1.65	SODI 50.8x1.65	SA75 50.8x1.5	SA84 60.5x2.0	SA35 60.3x2.77
65.0	2 ½"	SA48 76.1x2.0	SA64 63.5x1.6	–	–	SD48 70.0x2.0	–	SODJ 63.5x1.65	SODJ 63.5x1.65	SA77 63.5x2.0	–	SA36 73.0x3.05
80.0	3"	SA49 88.9x2.3	SA65 76.1x1.6	–	–	SD49 85.0x2.0	–	SODK 76.2x1.65	SODK 76.2x1.65	SA79 76.3x2.0	–	SA37 88.9x3.05
100.0	4"	SA39 114.3x2.3	SA66 101.6x2.0	–	–	SD50 104.0x2.0	–	SODL 101.6x2.11	SODL 101.6x2.11	–	–	SA38 114.3x3.05

** further connection types on request*

Clamp connection

DN [mm]	NPS	DIN 32676 Series A DIN-tube DIN 11850 Series-2	DIN 32676 Series B ISO-4200 tube	ASME BPE	BS 4825 Clamp BS 4825-3, tube BS 4825-1	ISO 2852	Clamp ASME BPE tube JIS G 3447
6.0	1/8”	TD39 - 8.0x1.0 Clamp: 25.0	–	–	–	–	–
8.0	1/4”	TD40 - 10.0x1.0 Clamp: 25.0	TC40 - 13.5x1.6 Clamp: 25.0	TG50 - 6.35x0.89 Clamp: 25.0	TH40 - 6.35x1.2 Clamp: 25.0	–	–
10.0	3/8”	TD41 - 13.0x1.5 Clamp: 34.0	TC53 - 17.2x1.6 Clamp: 25.0	TG01 - 9.53x0.89 Clamp: 25.0	TH41 - 9.53x1.2 Clamp: 25.0	–	–
15.0	1/2”	TD42 - 19.0x1.5 Clamp: 34.0	TC52 - 21.3x1.6 Clamp: 50.5	TG02 - 12.7x1.65 Clamp: 25.0	TH42 - 12.7x1.2 Clamp: 25.0	–	–
20.0	3/4”	TD43 - 23.0x1.5 Clamp: 34.0	TC43 - 26.9x1.6 Clamp: 50.5	TG03 - 19.05x1.65 Clamp: 25.0	TH43 - 19.05x1.2 Clamp: 25.0	–	–
25.0	1“	TD44 - 29.0x1.5 Clamp: 50.5	TC44 - 33.7x2.0 Clamp: 50.5	TG04 - 25.4x1.65 Clamp: 50.5	TG04 - 25.4x1.65 Clamp: 50.5	TM44 - 25.6x1.5 Clamp: 50.5	TG73 - 25.4x1.2 Clamp: 50.5
32.0	1 ¼”	TD45 - 35.0x1.5 Clamp: 50.5	–	–	–	–	TG74 – 31.8x1.2 Clamp: 50.5
40.0	1 ½“	TD46 - 41.0x1.5 Clamp: 50.5	TC46 - 48.3x2.0 Clamp: 64.0	TG05 - 38.1x1.65 Clamp: 50.5	TG05 - 38.1x1.65 Clamp: 50.5	TM46 - 38.6x1.5 Clamp: 50.5	TG75 – 38.1x1.2 Clamp: 50.5
50.0	2“	TD47 - 53.0x1.5 Clamp: 64.0	TC47 - 60.3x2.0 Clamp: 77.5	TG06 - 50.8x1.65 Clamp: 64.0	TG06 - 50.8x1.65 Clamp: 64.0	TM47 - 51.6x1.5 Clamp: 64.0	TG76 – 50.8x1.5 Clamp: 64.0
65.0	2 ½“	TD48 - 70.0x2.0 Clamp: 91.0	TC48 - 76.1x2.0 Clamp: 91.0	TG07 - 63.5x1.65 Clamp: 77.5	TG07 - 63.5x1.65 Clamp: 77.5	TM48 - 64.1x1.9 Clamp: 77.5	TG77 – 63.5x2.0 Clamp: 77.5
80.0	3“	TD49 - 85.0x2.0 Clamp: 106.0	TC49 - 88.9x2.3 Clamp: 106.0	TG08 - 76.1x1.65 Clamp: 91.0	TG08 - 76.1x1.65 Clamp: 91.0	TM49 - 76.7x1.9 Clamp: 91.0	TG78 – 76.3x2.0 Clamp: 91.0
100.0	4“	TD50 - 104.0x2.0 Clamp: 119.0	TC50 - 114.3x2.3 Clamp: 130.0	TG09 - 101.6x2.11 Clamp: 119.0	TG09 - 101.6x2.11 Clamp: 119.0	TM50 - 102.5x2.45 Clamp: 119.0	–



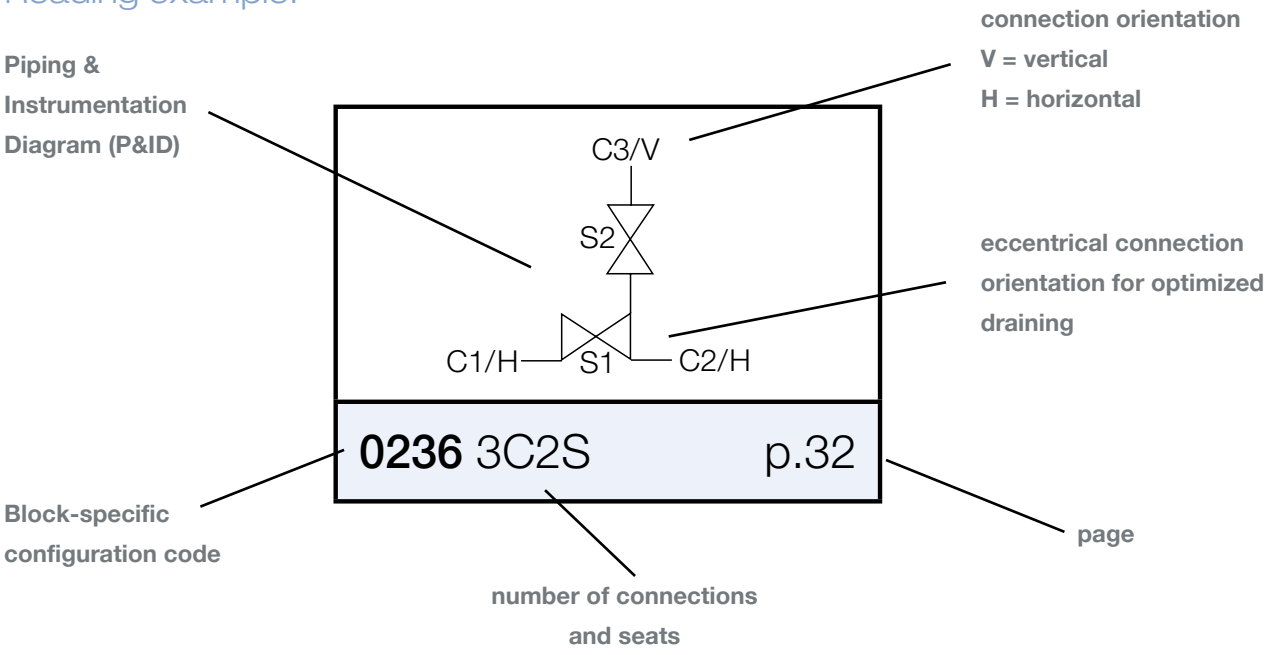


Complete internal flow: Fully flushed dead spaces avoid contamination

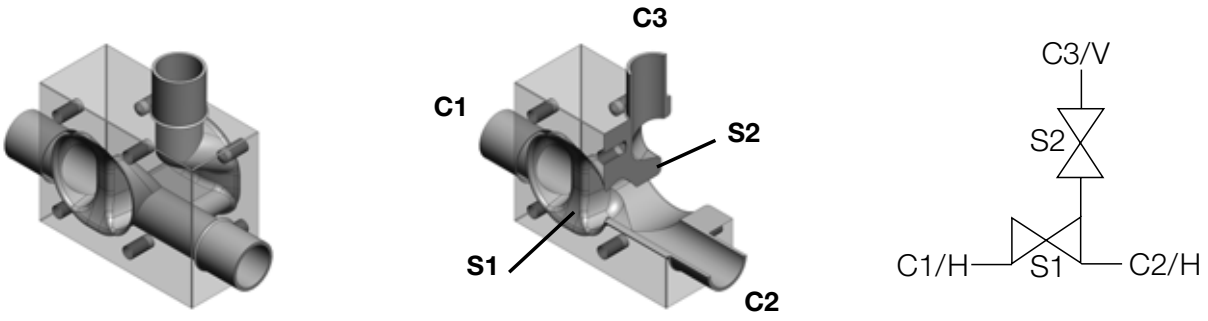
Selected standardized configurations

Bürkert standardized block valve and tank valve solutions are defined by specific design codes like SAP1, 0236, GMP3, ... For product enquiry form see data sheet Type 2034: www.burkert.com/en/type/2034

Reading example:

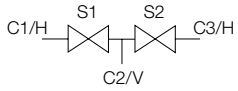
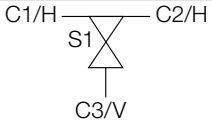
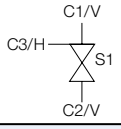
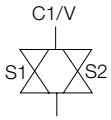
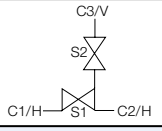


0236



3 connections, 2 seats: 1 vertical connection, 2 horizontal connections

The shown bodies are only exemplary representations. In case of dead leg optimized construction, the design could be different to the shown example.

Robolux	T-Valve / POU	1 Seat	2 Seats	2 Seats
				
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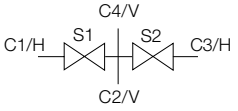	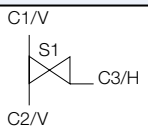	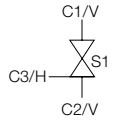	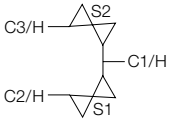	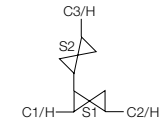
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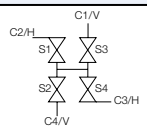	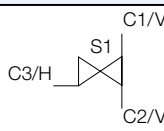	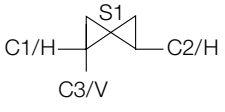	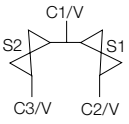	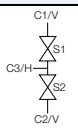
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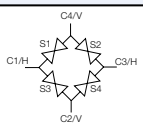	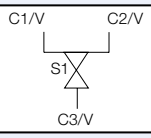	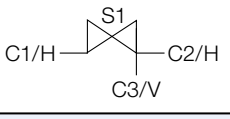	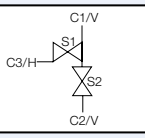	
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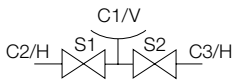
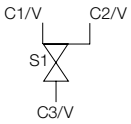
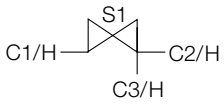
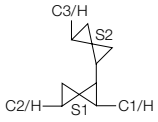
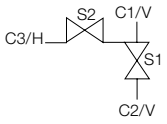
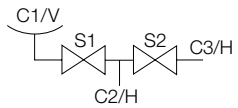
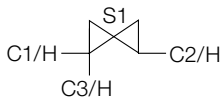
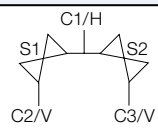
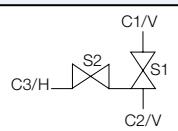
				
32T *MW56 3C2S p.19	**POU** 4C4S p.23	**SAPC** 3C1S p.25	**0209** 3C2S p.30	**GMP3** 3C2S p.33
				
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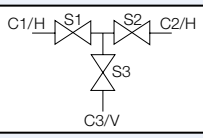		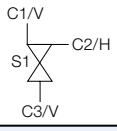	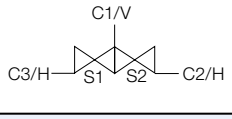	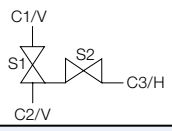
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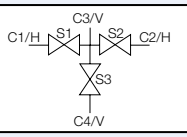		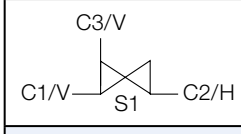	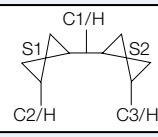	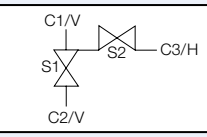
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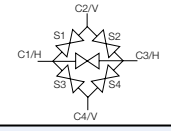		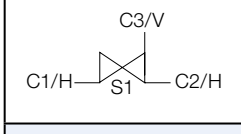	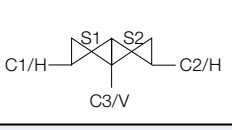	
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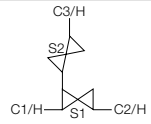
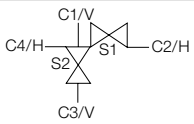
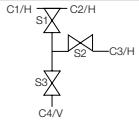
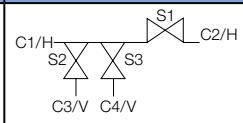
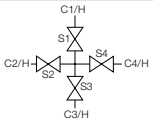
		0116 3C1S p.27	**0234** 3C2S p.31	**SAP2** 3C2S p.35

2 Seats	2 Seats	3 Seats	3 Seats	4 Seats
				
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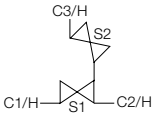	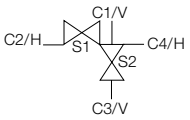	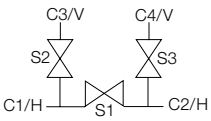	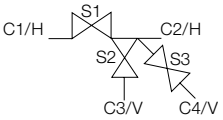	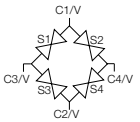
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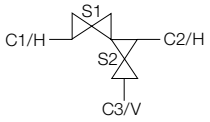		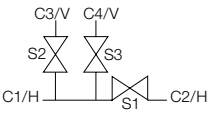	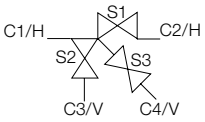	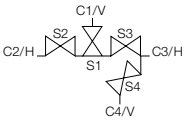
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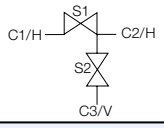	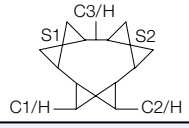	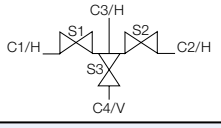	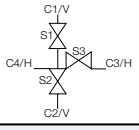	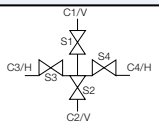
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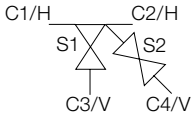	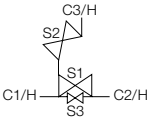	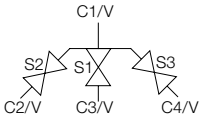	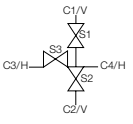	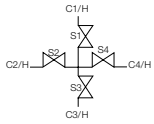
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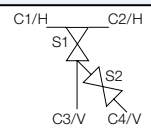	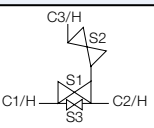	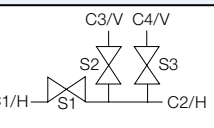	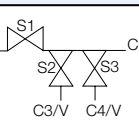	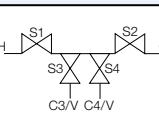
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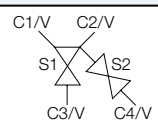
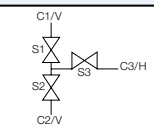
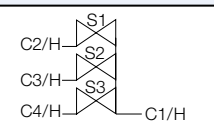
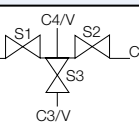
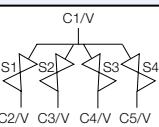
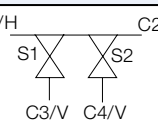
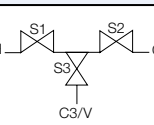
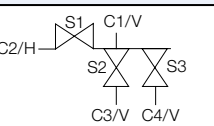
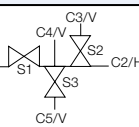
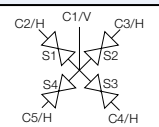
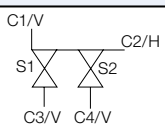
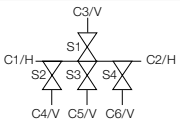
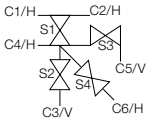
				
0205 4C2S p.37	**0333** 3C3S p.41	**0322** 4C3S p.44	**0344** 4C3S p.47	**0403** 5C4S p.51
				
0235 4C2S p.38	**0334** 3C3S p.41	**0326** 4C3S p.44	**0323** 5C3S p.48	**0416** 5C4S p.51
				
0249 4C2S p.38	**0339** 3C3S p.41	**0329** 4C3S p.45	**0327** 5C3S p.48	**0492** 5C4S p.51
0250 4C2S p.38	**0301** 4C3S p.42	**0335** 4C3S p.45	**0342** 5C3S p.48	**0417** 6C4S p.52

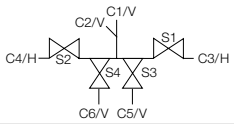
4 Seats



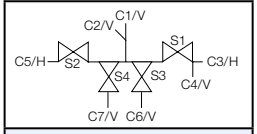
0424 6C4S p.52



0425 6C4S p.52

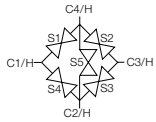


0476 6C4S p.53



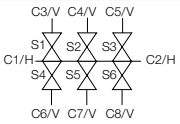
0477 7C4S p.53

5 Seats



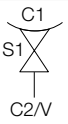
0501 4C5S p.54

6 Seats

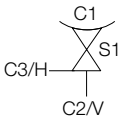


0602 8C6S p.54

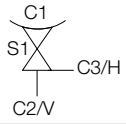
Tank Valve



Tank Valve p.55

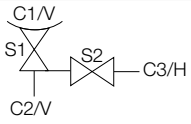


Tank Val. NBxx left p.55

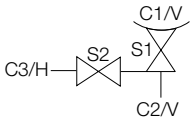


Tank Val. NBxx rightp.55

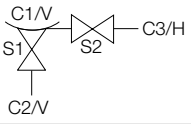
Tank Bottom with welded on body



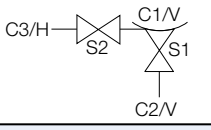
0231 3C2S p.56



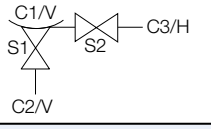
0243 3C2S p.56



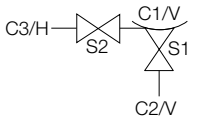
0247 3C2S p.56



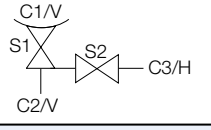
0244 3C2S p.57



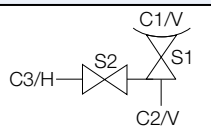
0248 3C2S p.57



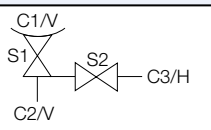
0245 3C2S p.57



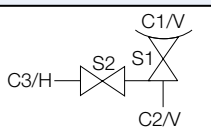
0241 3C2S p.58



0242 3C2S p.58

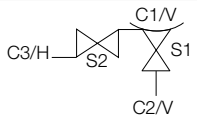


0239 3C2S p.58

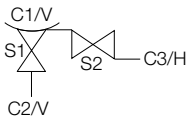


0240 3C2S p.59

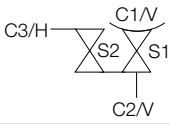
Tank Valve with integrated seat



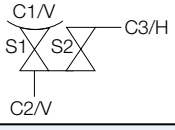
0252 3C2S p.60



0229 3C2S p.60



0251 3C2S p.60

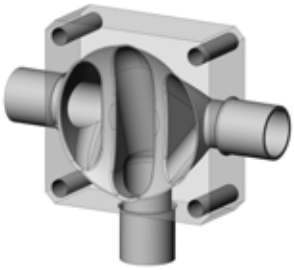


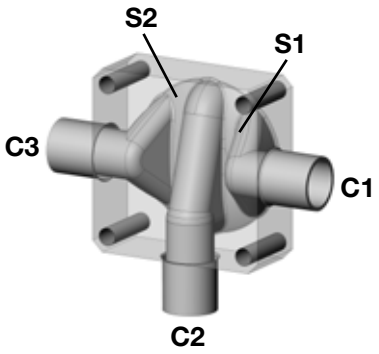
0206 3C2S sp.61

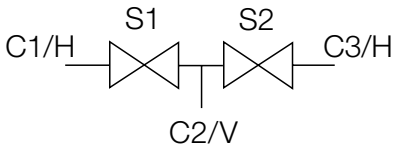
Robolux Solution with 2 seats

3C2S (3 connections / 2 seats)

32R



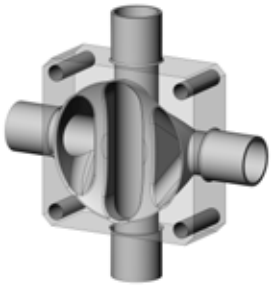


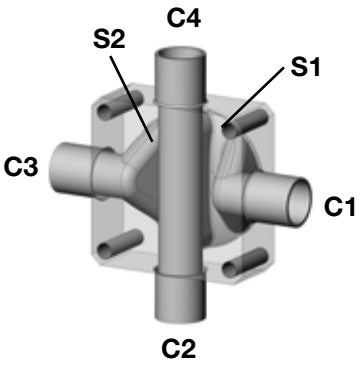


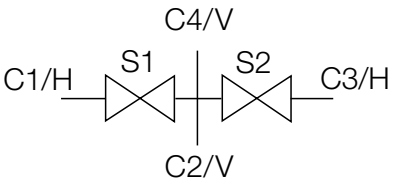
3 connections, 2 seats: 1 vertical, 2 horizontal

4C2S (4 connections / 2 seats)

42R





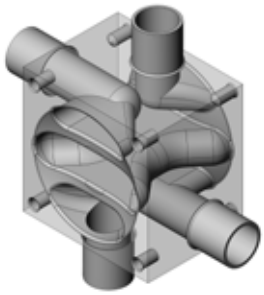


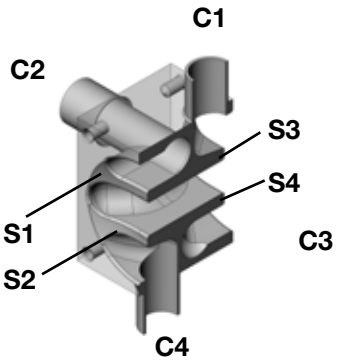
4 connections, 2 seats: 2 vertical, 2 horizontal

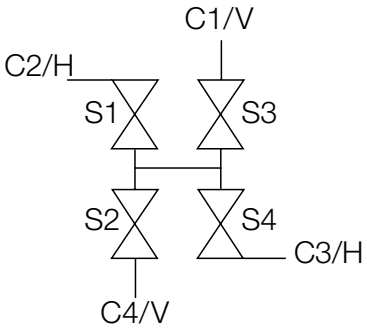
Robolux Solution with 4 seats

4C4S (4 connections / 4 seats)

CF

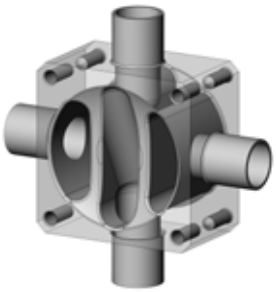


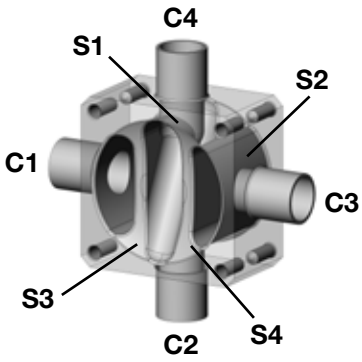


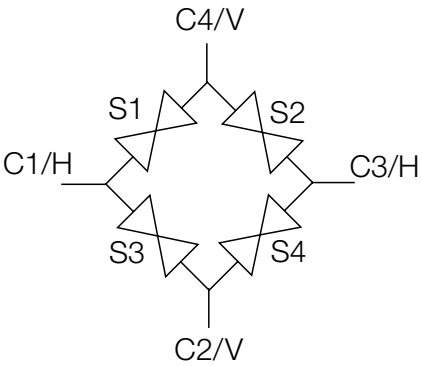


4 connections, 4 seats: 2 vertical, 2 horizontal

DFP





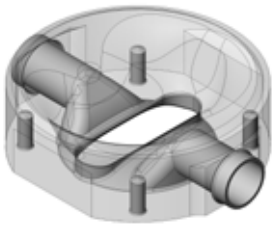


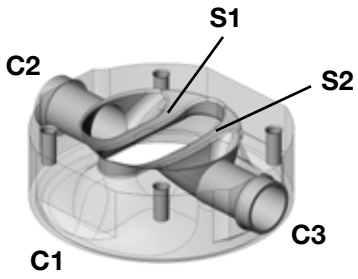
4 connections, 4 seats: 2 vertical, 2 horizontal

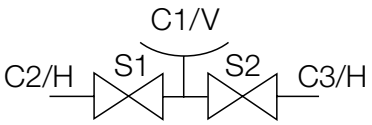
Robolux Solution for Tank Bottom

3C2S (3 connections / 2 seats)

32T *MW56

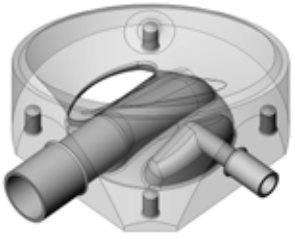


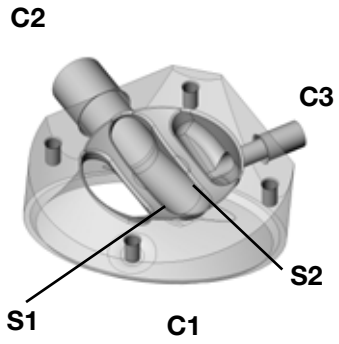


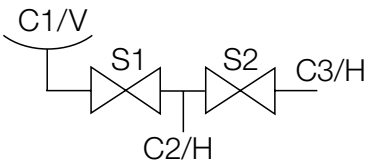


3 connections, 2 seats: 1 vertical, 2 horizontal

32T *MW90





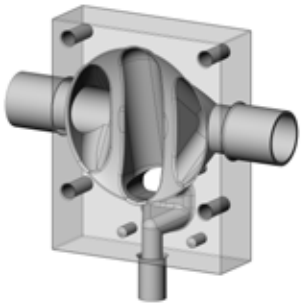


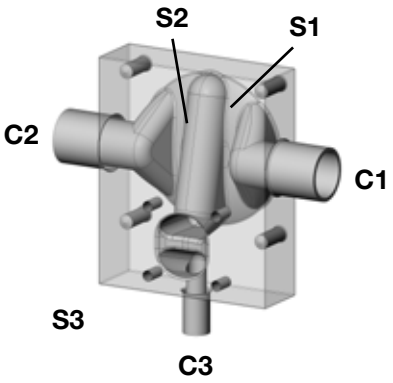
3 connections, 2 seats: 1 vertical, 2 horizontal

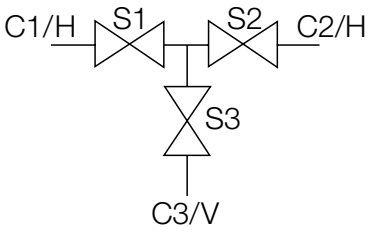
Robolux combined Solution with 3 seats

3C3S (3 connections / 3 seats)

K301



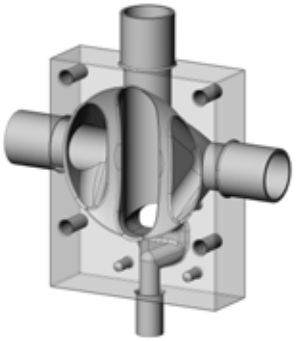


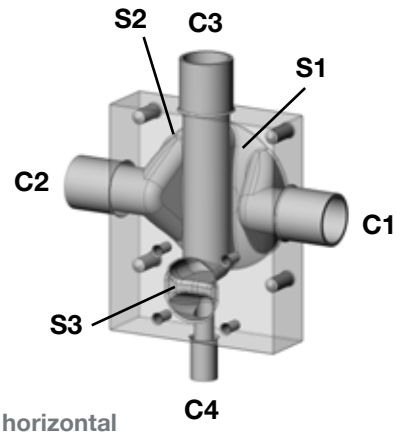


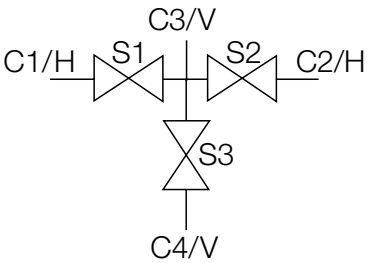
3 connections, 3 seats: 1 vertical, 2 horizontal

4C3S (4 connections / 3 seats)

K302





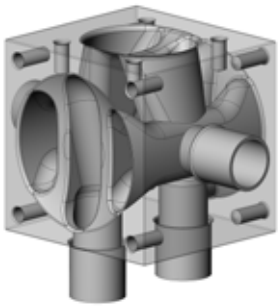


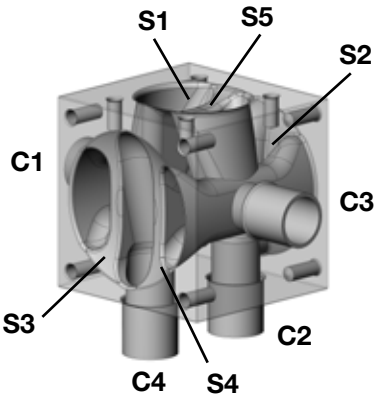
4 connections, 3 seats: 2 vertical, 2 horizontal

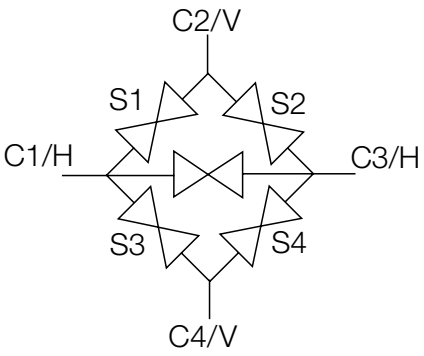
Robolux combined Solution with 5 seats

4C5S (4 connections / 5 seats)

K501





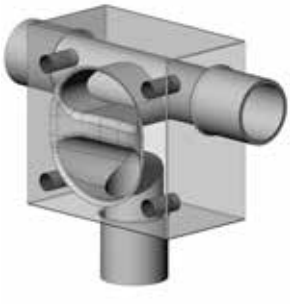


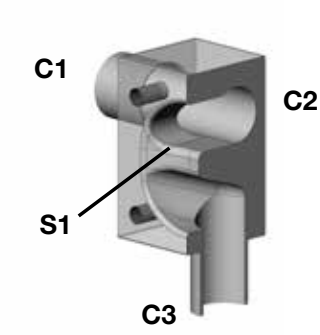
4 connections, 5 seats: 2 vertical, 2 horizontal

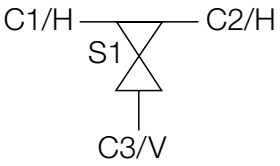
T-Valve / POU Solution

3C1S (3 connections / 1 seat)

T-Valve Standard

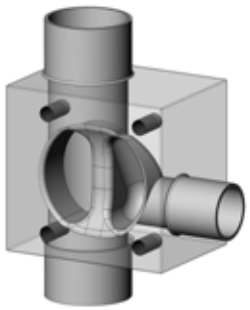


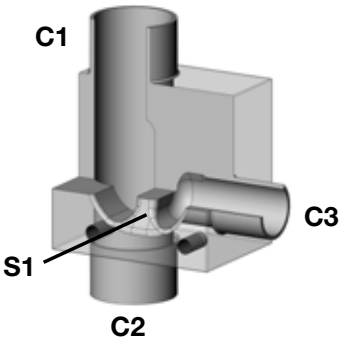


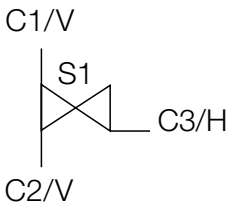


3 connections, 1 seat: 1 vertical, 2 horizontal

NB58

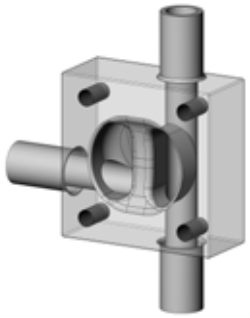


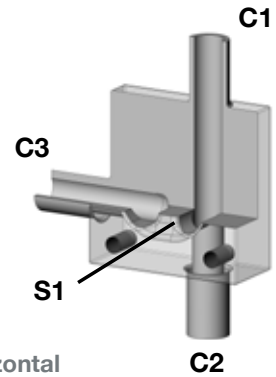


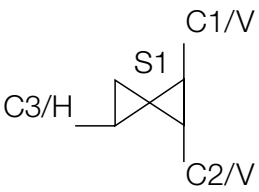


3 connections, 1 seat: 2 vertical, 1 horizontal

NH15

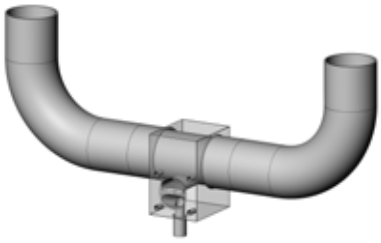


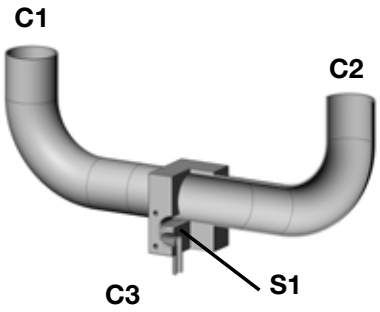


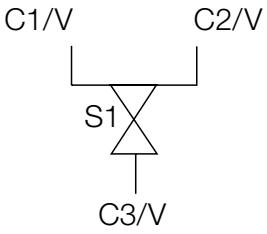


3 connections, 1 seat: 2 vertical, 1 horizontal

POU Design with U-Bend

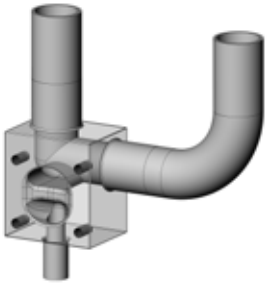


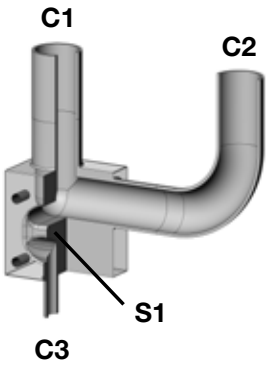


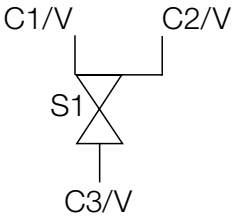


3 connections, 1 seat: 3 vertical

POU optimized Design with U-Bend





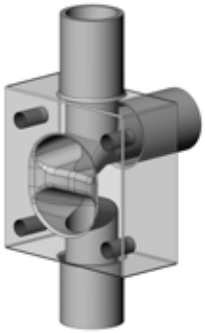


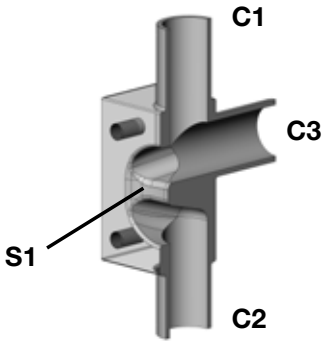
3 connections, 1 seat: 3 vertical

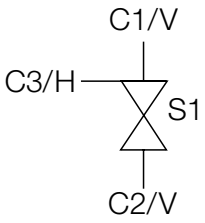
Block Solution with 1 seat

3C1S (3 connections / 1 seat)

GMPA

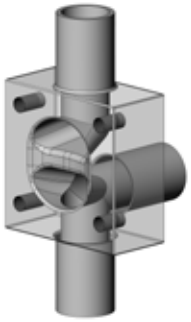


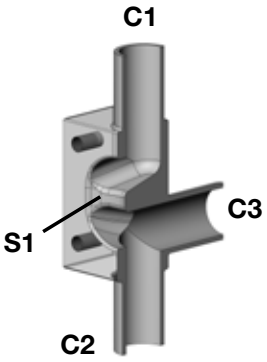


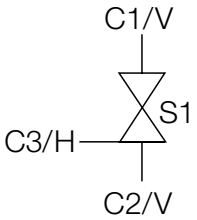


3 connections, 1 seat: 2 vertical, 1 horizontal

GMPB

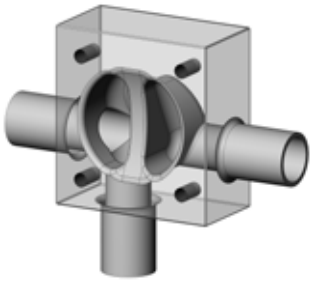


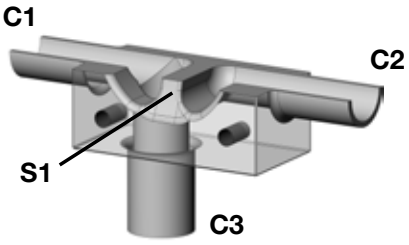


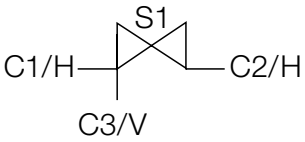


3 connections, 1 seat: 2 vertical, 1 horizontal

SAPA

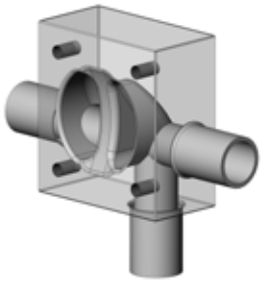


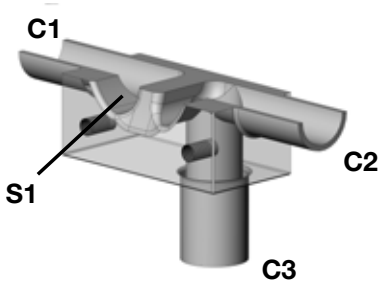


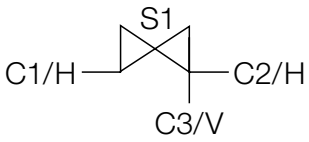


3 connections, 1 seat: 2 horizontal, 1 vertical

SAPB

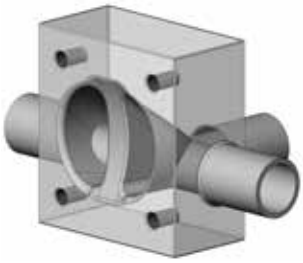


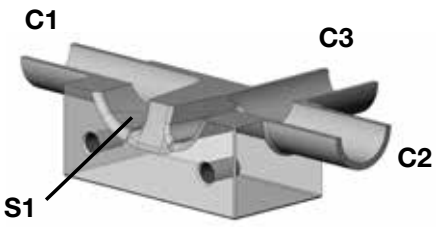


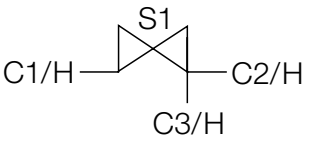


3 connections, 1 seat: 2 horizontal, 1 vertical

SAPC

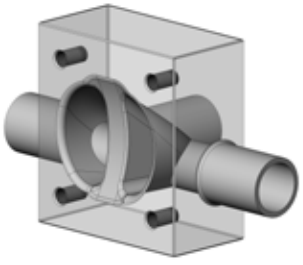


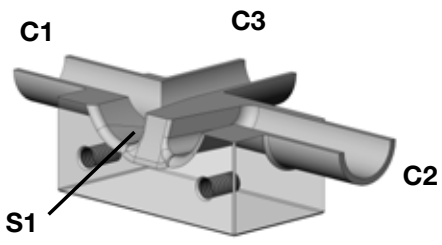


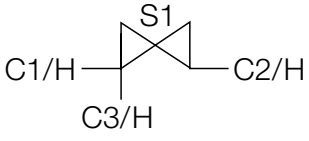


3 connections, 1 seat: 3 horizontal

SAPD

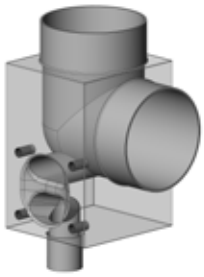


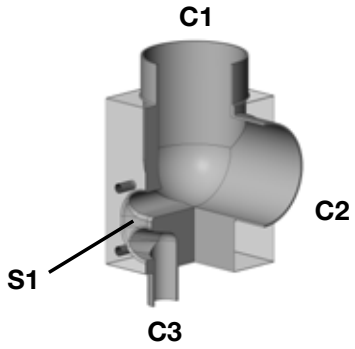


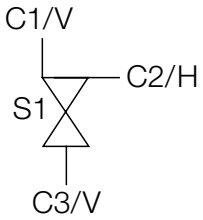


3 connections, 1 seat: 3 horizontal

0113

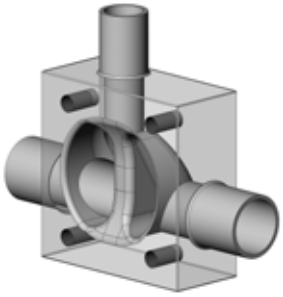


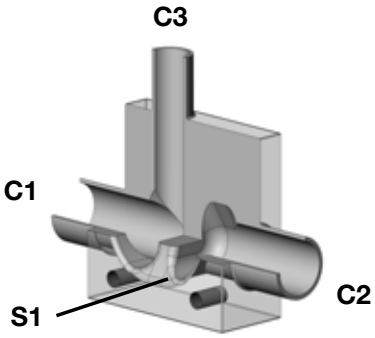


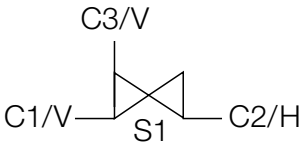


3 connections, 1 seat: 1 horizontal, 2 vertical

0114

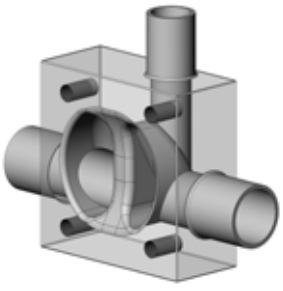


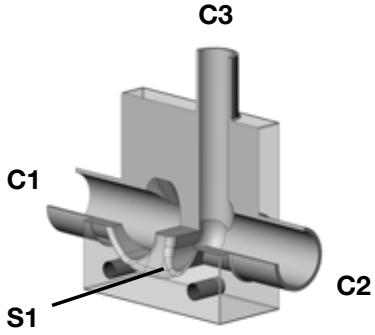


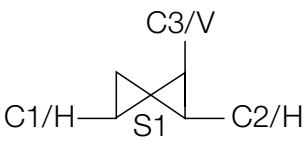


3 connections, 1 seat: 2 horizontal, 1 vertical

0115

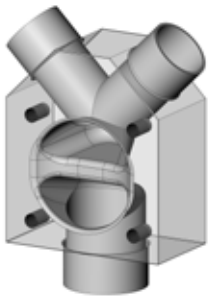


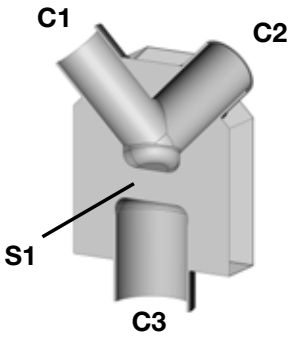


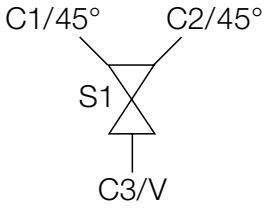


3 connections, 1 seat: 2 horizontal, 1 vertical

0116





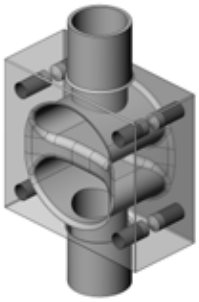


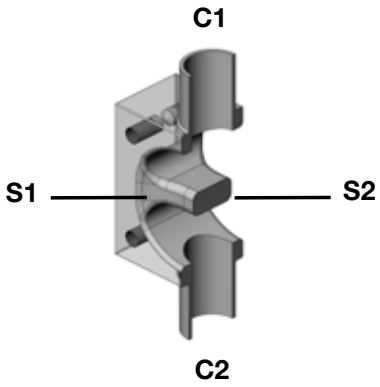
3 connections, 1 seat: 2 vertical 45°, 1 vertical

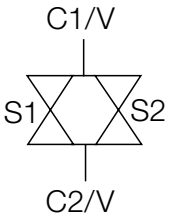
Block Solution with 2 seats

2C2S (2 connections / 2 seats)

0216



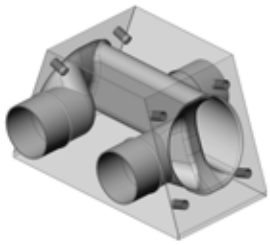


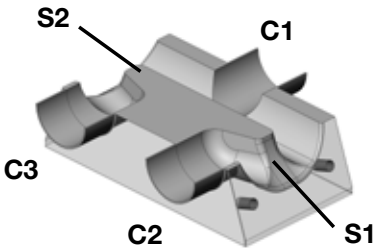


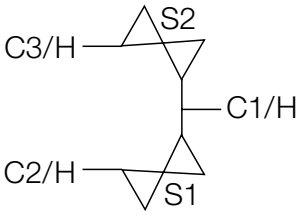
2 connections, 2 seats: 2 vertical

3C2S (3 connections / 2 seats)

0201

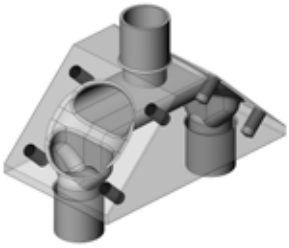


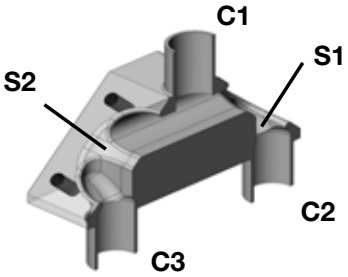


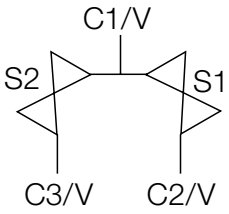


3 connections, 2 seats: 3 horizontal

0202

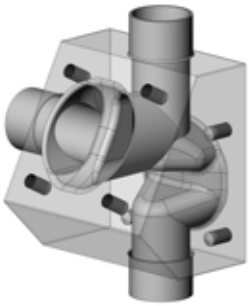


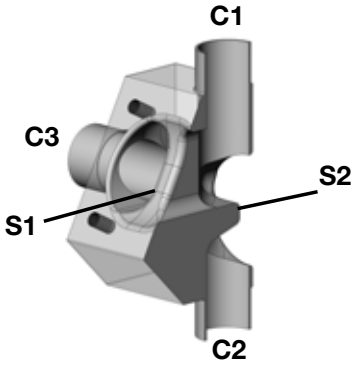


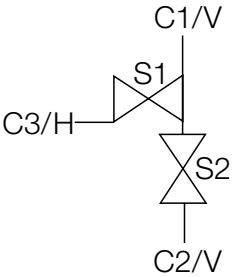


3 connections, 2 seats: 3 vertical

0208

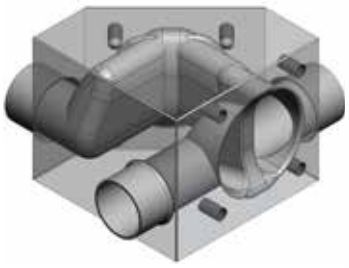


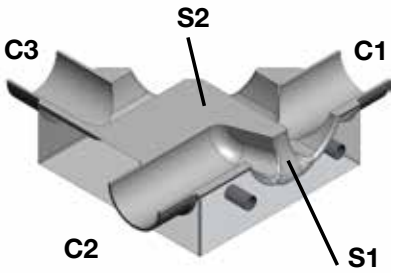


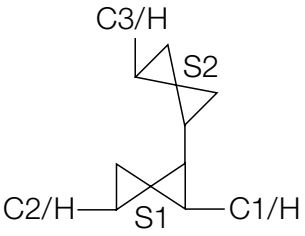


3 connections, 2 seats: 2 vertical, 1 ho

0209

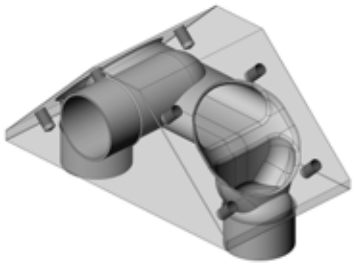


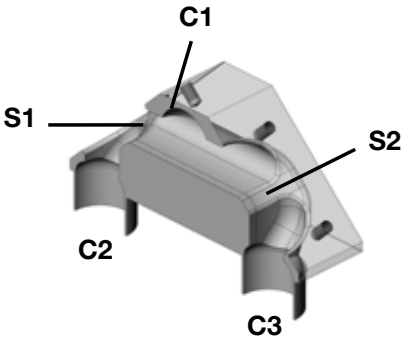


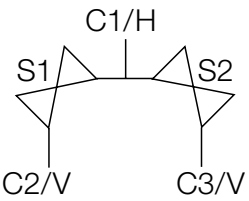


3 connections, 2 seats: 3 horizontal

0226

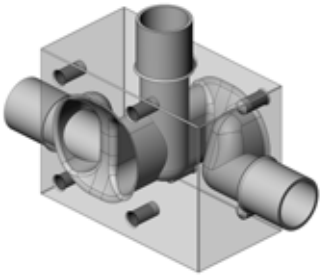


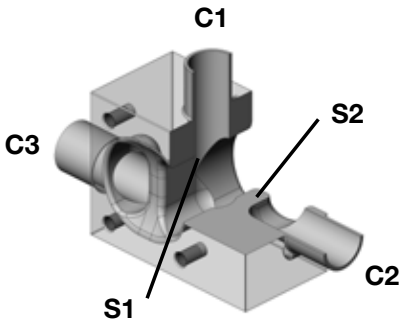


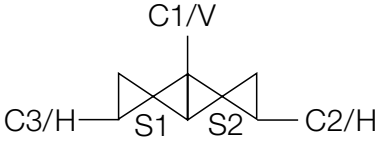


3 connections, 2 seats: 2 vertical, 1 horizontal

0227

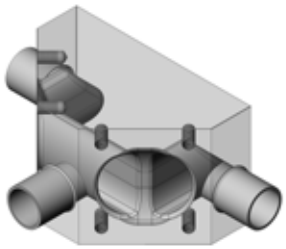


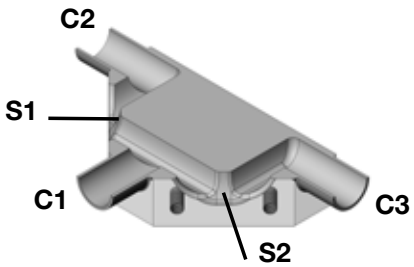


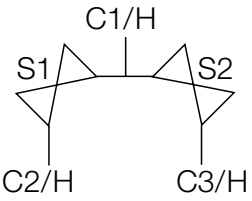


3 connections, 2 seats: 1 vertical, 2 horizontal

0232

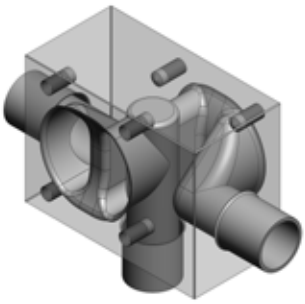


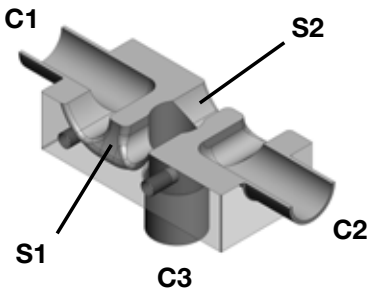


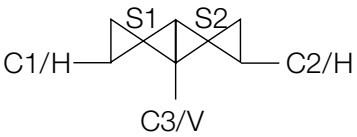


3 connections, 2 seats: 3 horizontal

0233

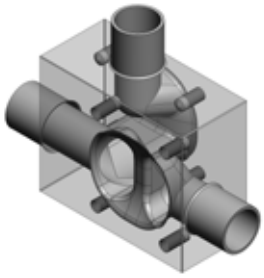


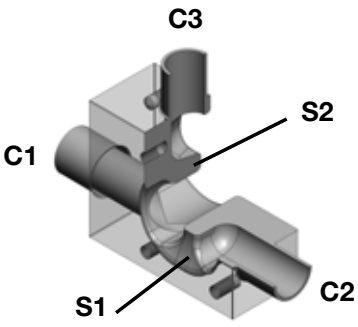


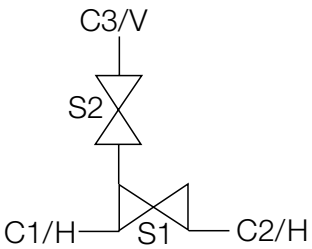


3 connections, 2 seats: 1 vertical, 2 horizontal

0234

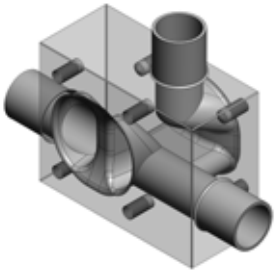


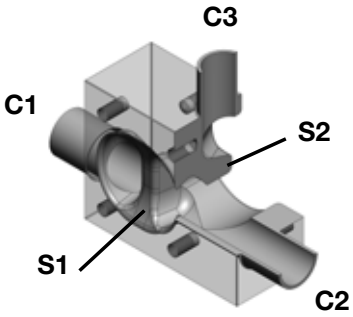


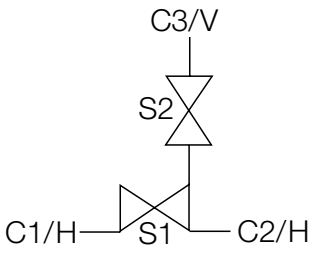


3 connections, 2 seats: 1 vertical, 2 horizontal

0236

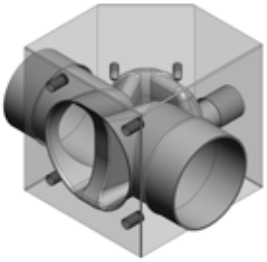


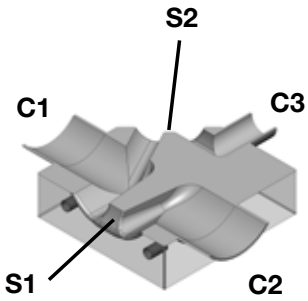


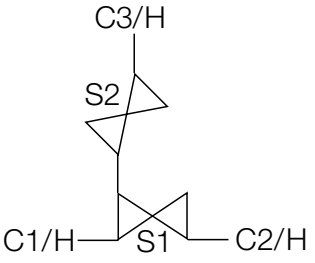


3 connections, 2 seats: 1 vertical, 2 horizontal

0237

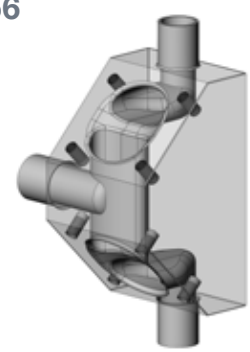


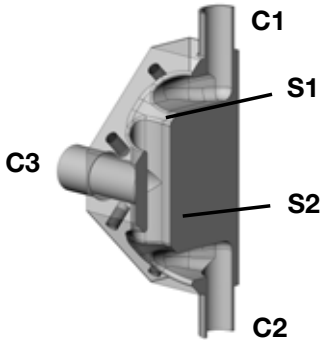


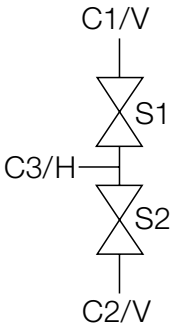


3 connections, 2 seats: 3 horizontal

0256

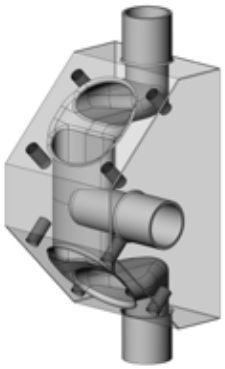


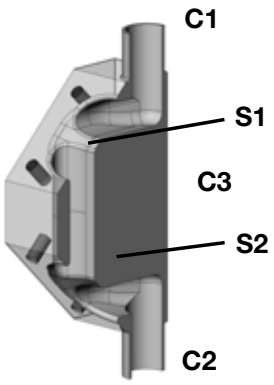


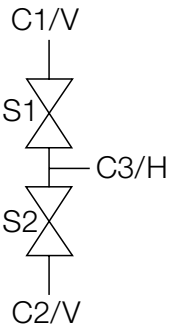


3 connections, 2 seats: 2 vertical, 1 horizontal

0257

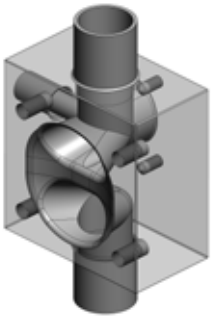


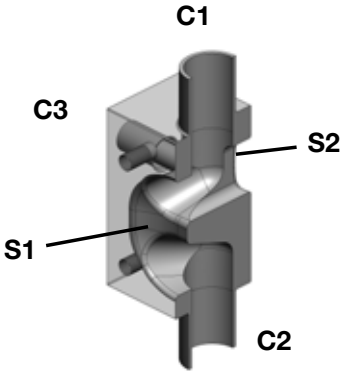


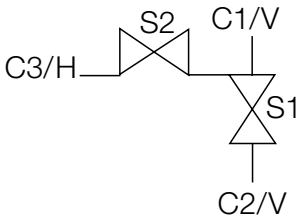


3 connections, 2 seats: 2 vertical, 1 horizontal

GMP3

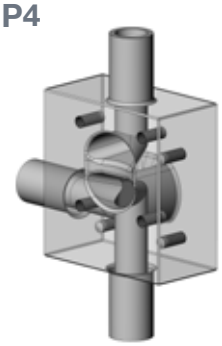


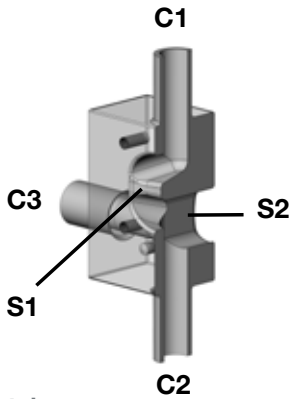


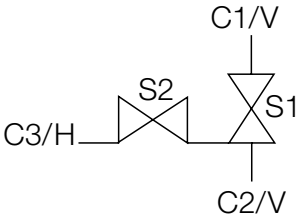


3 connections, 2 seats: 2 vertical, 1 horizontal

GMP4

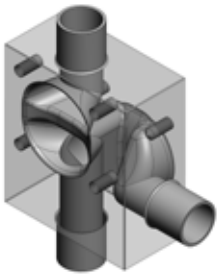


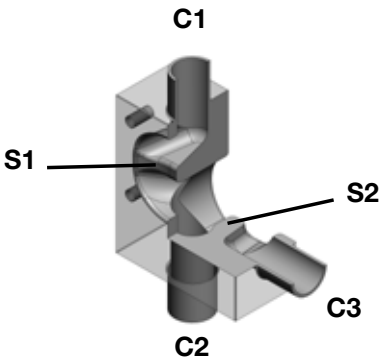


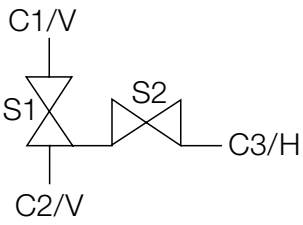


3 connections, 2 seats: 2 vertical, 1 horizontal

GMP5

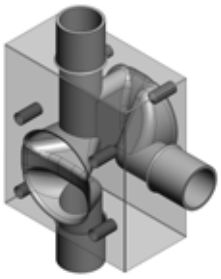


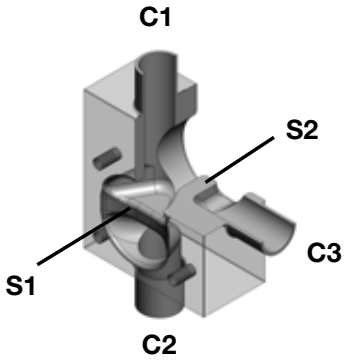


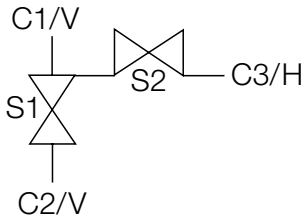


3 connections, 2 seats: 2 vertical, 1 horizontal

GMP6

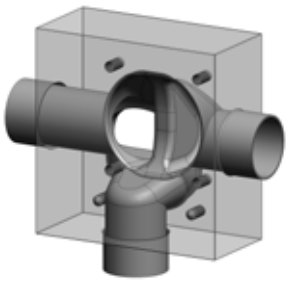


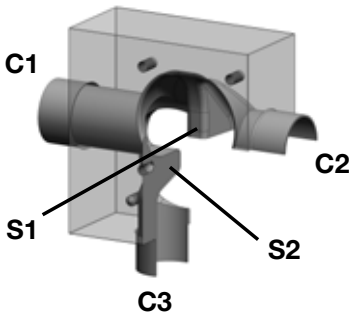


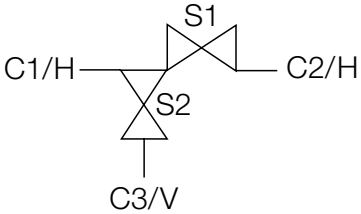


3 connections, 2 seats: 2 vertical, 1 horizontal

SAP1

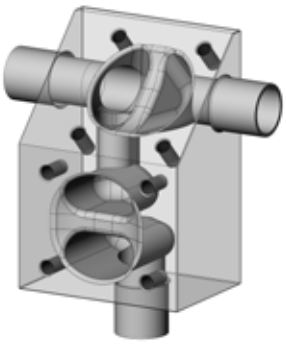


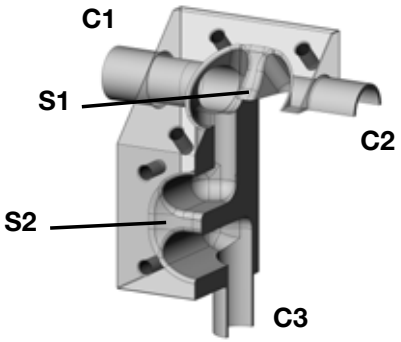


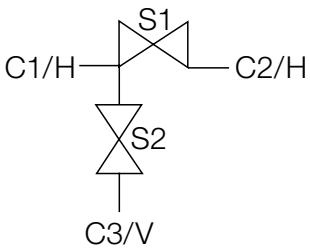


3 connections, 2 seats: 1 vertical, 2 horizontal

SAP2

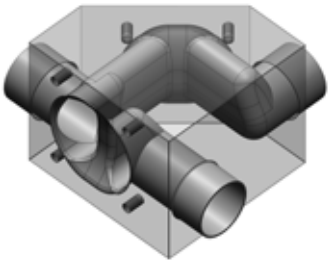


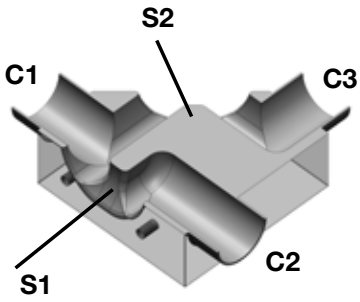


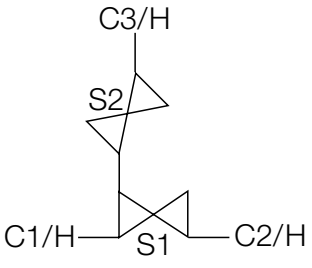


3 connections, 2 seats: 1 vertical, 2 horizontal

SAP3

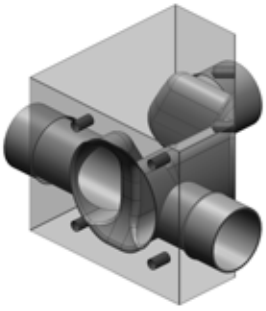


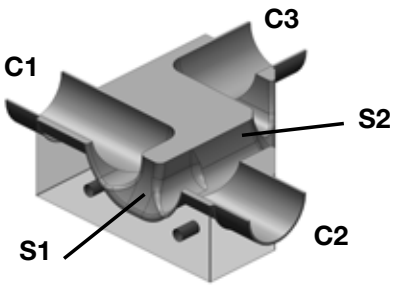


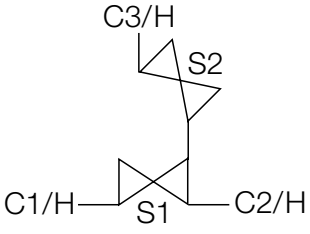


3 connections, 2 seats: 3 horizontal

SAP4

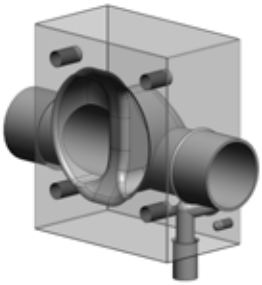


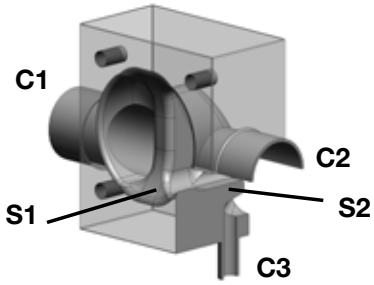


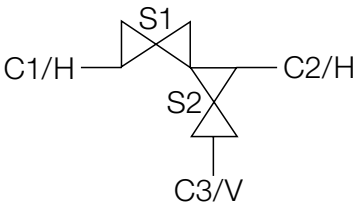


3 connections, 2 seats: 3 horizontal

SAP7

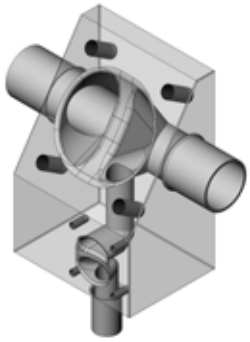


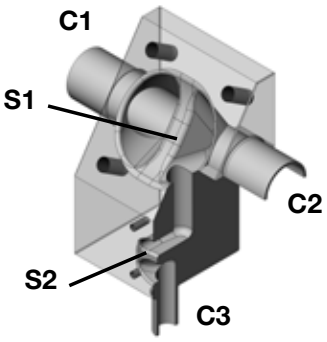


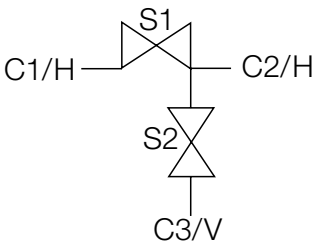


3 connections, 2 seats: 1 vertical, 2 horizontal

SAP8



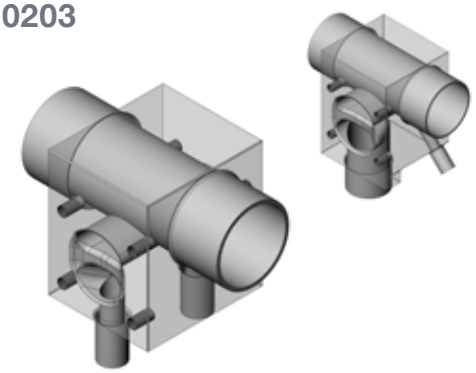


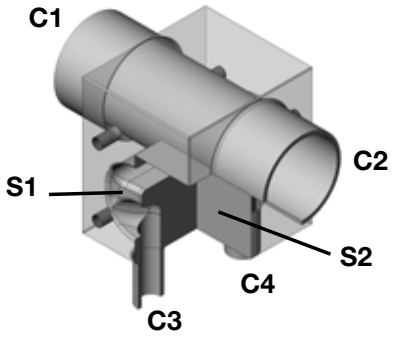


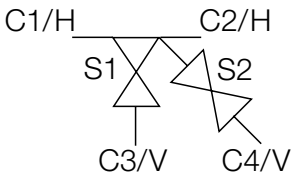
3 connections, 2 seats: 1 vertical, 2 horizontal

4C2S (4 connections / 2 seats)

0203

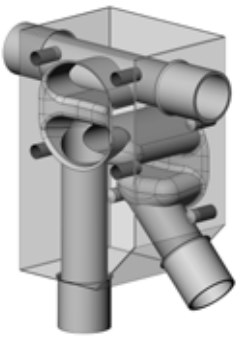


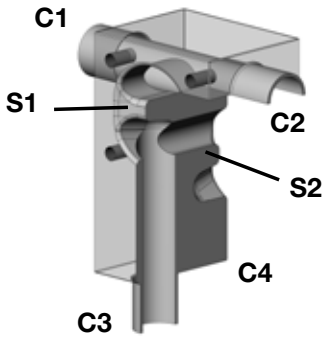


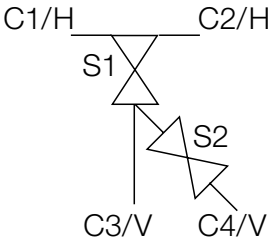


4 connections, 2 seats: 2 vertical, 2 horizontal

0204

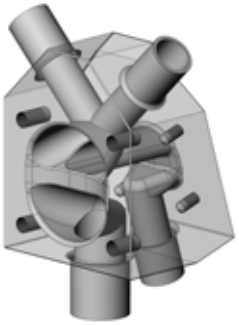


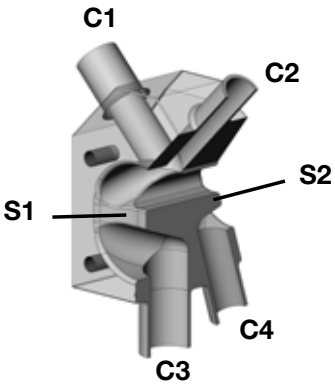


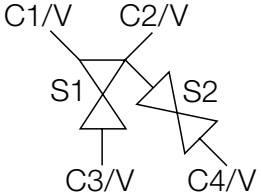


4 connections, 2 seats: 2 vertical, 2 horizontal

0205

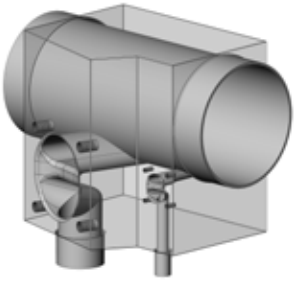


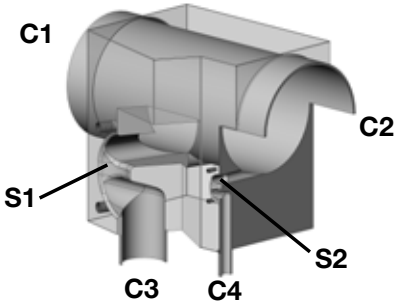


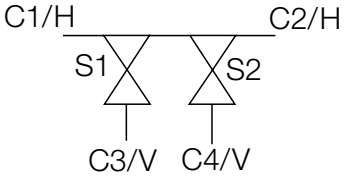


4 connections, 2 seats: 4 vertical

0235

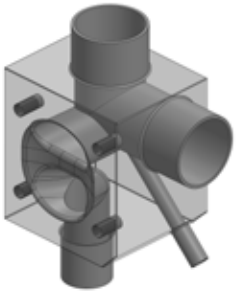


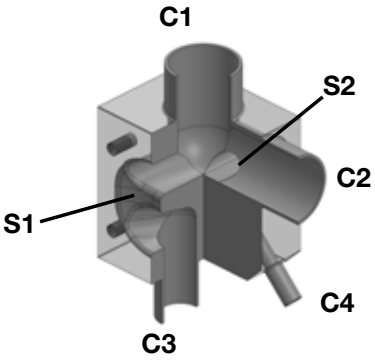


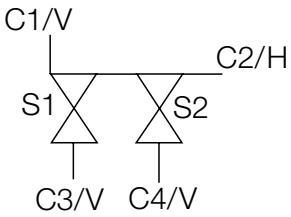


4 connections, 2 seats: 2 vertical, 2 horizontal

0249

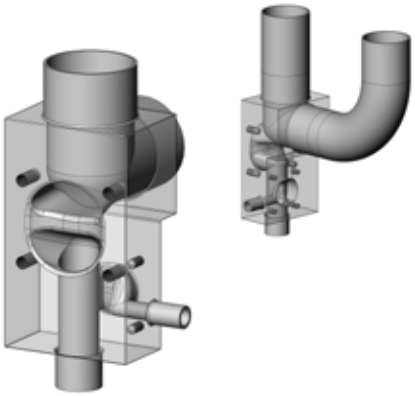


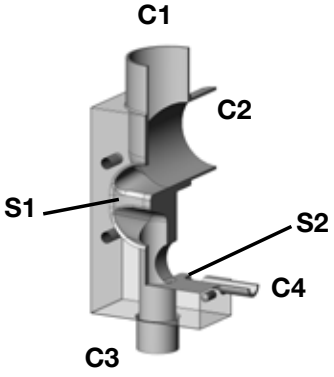


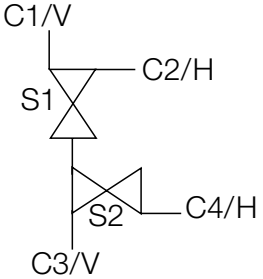


4 connections, 2 seats: 3 vertical, 1 horizontal

0250

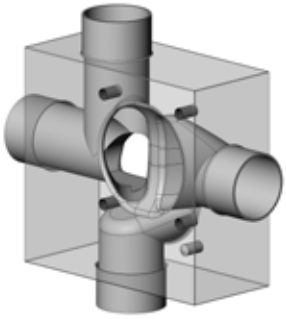


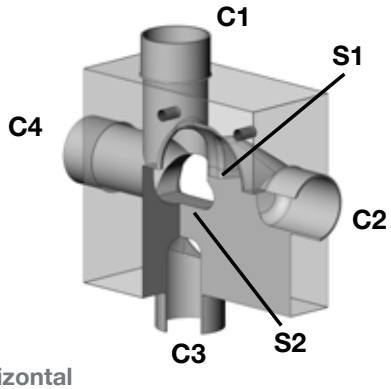


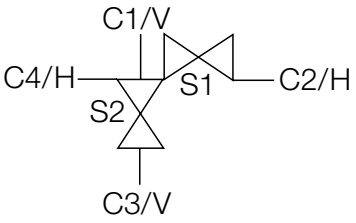


4 connections, 2 seats: 2 vertical, 2 horizontal

0253

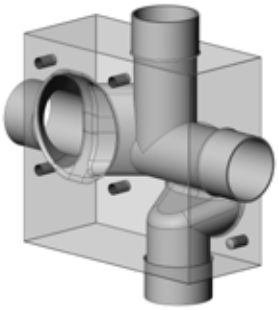


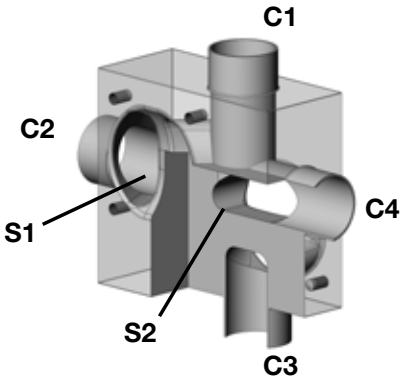


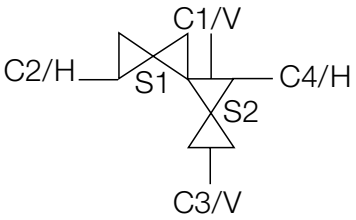


4 connections, 2 seats: 2 vertical, 2 horizontal

0254





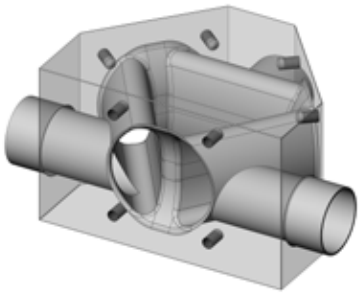


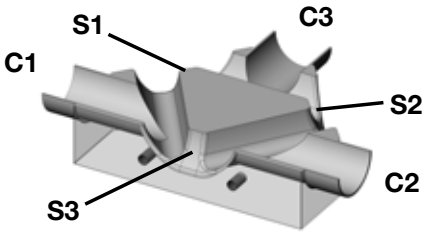
4 connections, 2 seats: 2 vertical, 2 horizontal

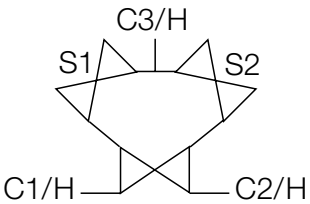
Block Solution with 3 seats

3C3S (3 connections / 3 seats)

0316

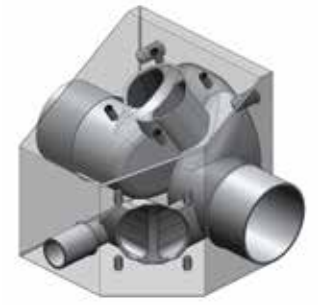


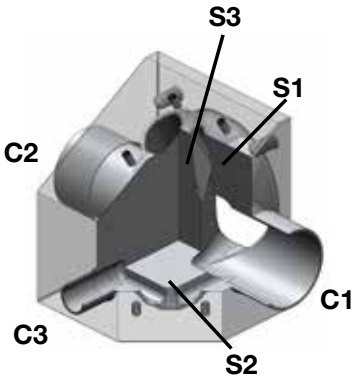


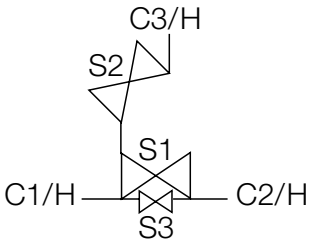


3 connections, 3 seats: 3 horizontal

0325

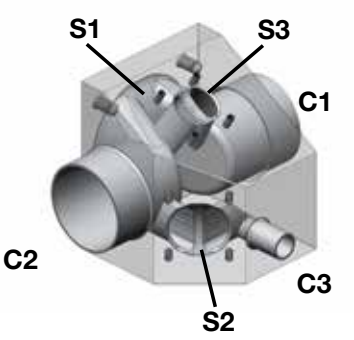


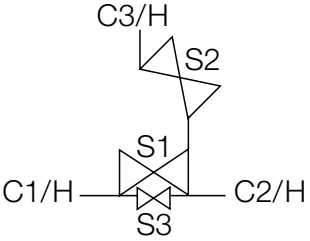




3 connections, 3 seats: 3 horizontal

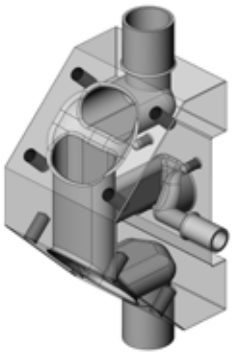
0328

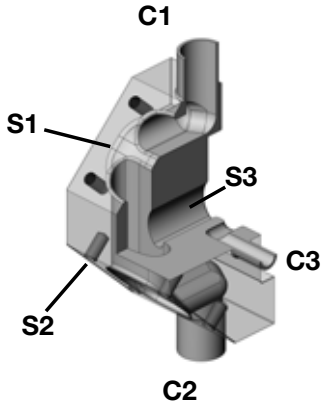


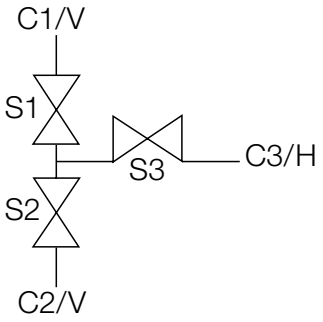


3 connections, 3 seats: 3 horizontal

0333

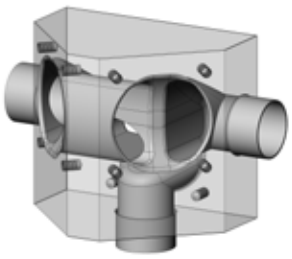


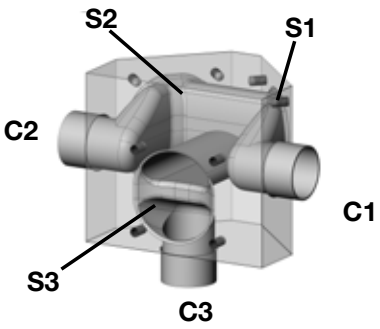


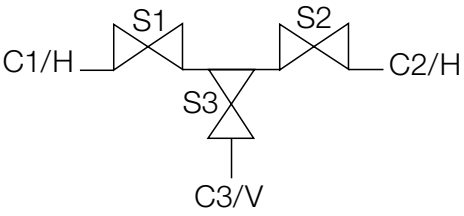


3 connections, 3 seats: 2 vertical, 1 horizontal

0334

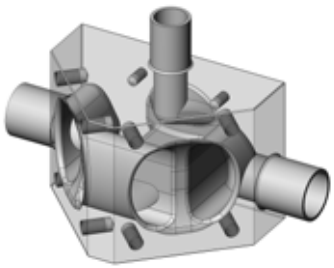


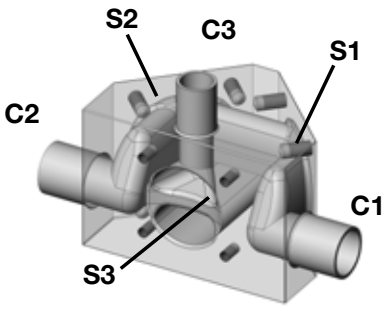


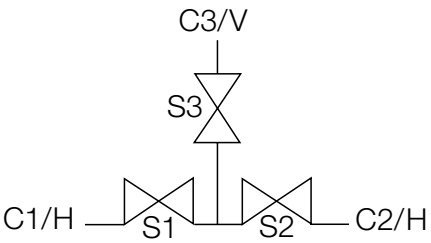


3 connections, 3 seats: 1 vertical, 2 horizontal

0339



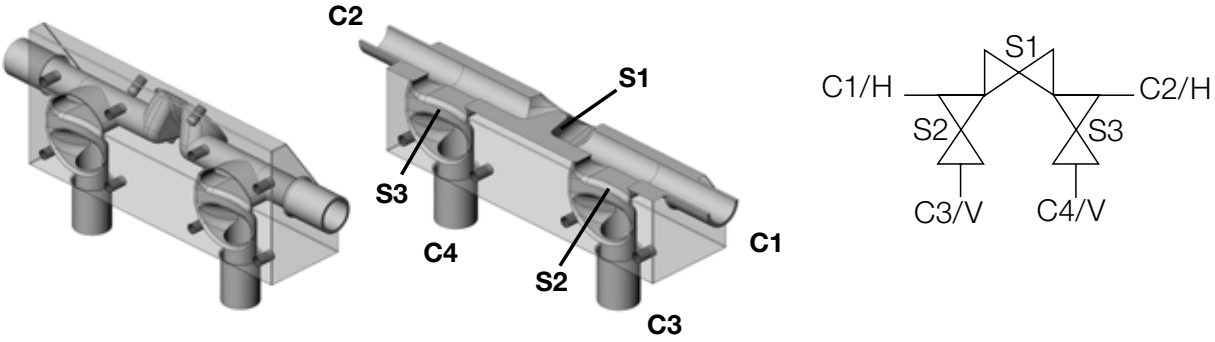




3 connections, 3 seats: 1 vertical, 2 horizontal

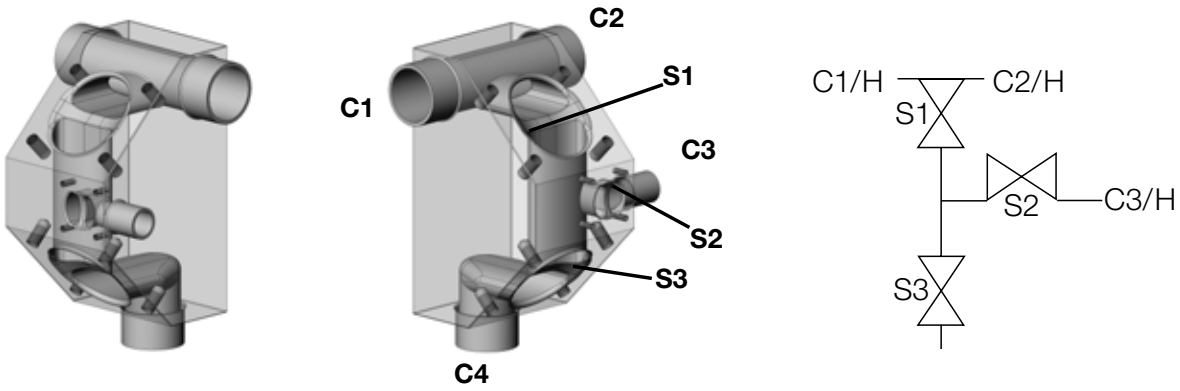
4C3S (4 connections / 3 seats)

0301



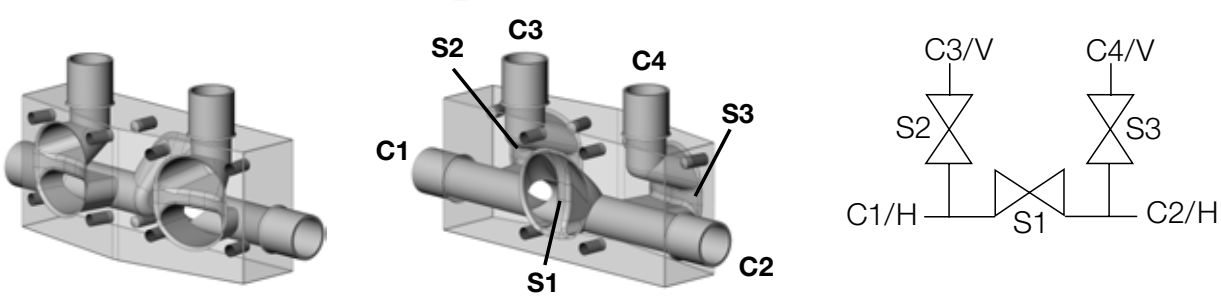
4 connections, 3 seats: 2 vertical, 2 horizontal

0302



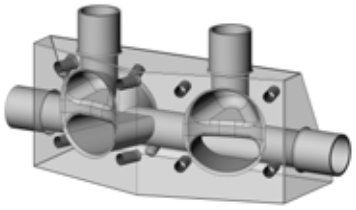
4 connections, 3 seats: 1 vertical, 3 horizontal

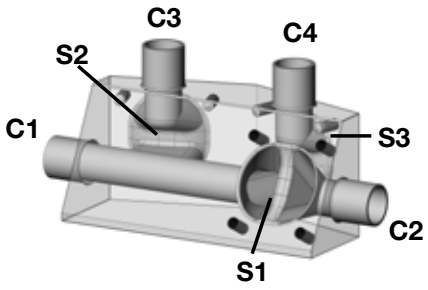
0303

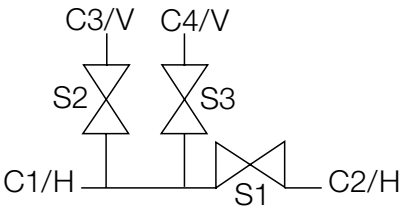


4 connections, 3 seats: 2 vertical, 2 horizontal

0304

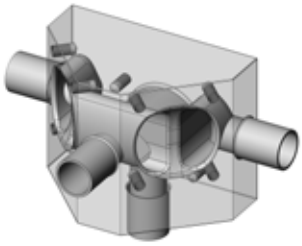


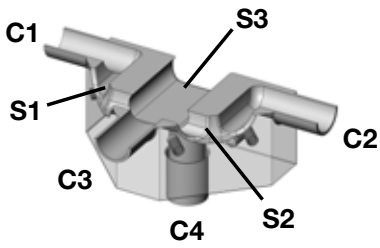


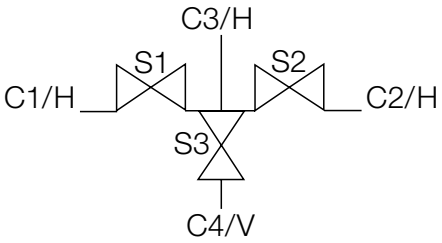


4 connections, 3 seats: 2 vertical, 2 horizontal

0317

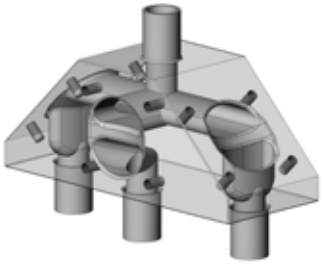


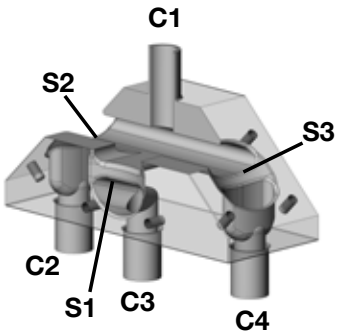


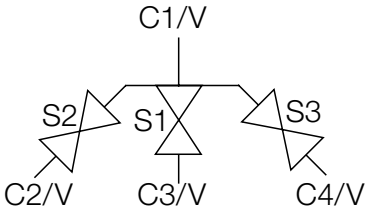


4 connections, 3 seats: 1 vertical, 3 horizontal

0319

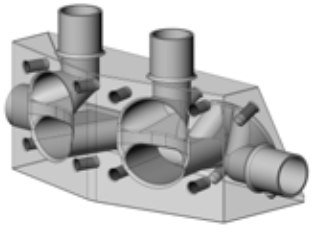


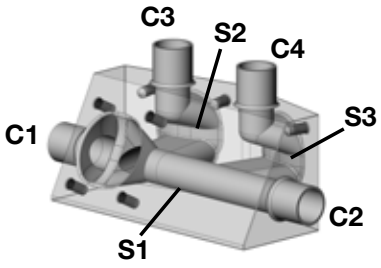


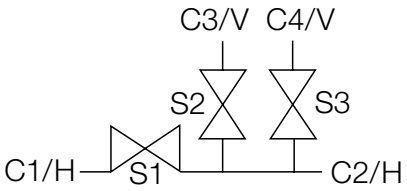


4 connections, 3 seats: 4 vertical

0321

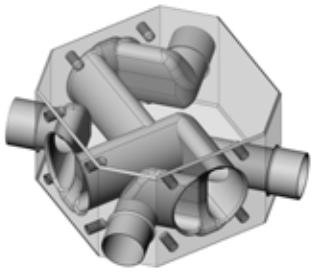


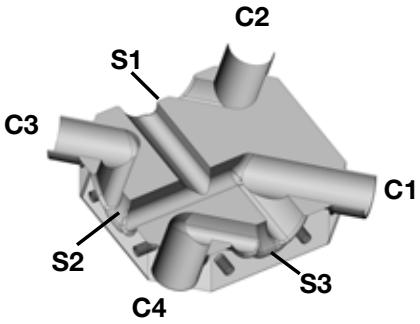


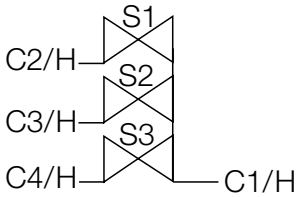


4 connections, 3 seats: 2 vertical, 2 horizontal

0322

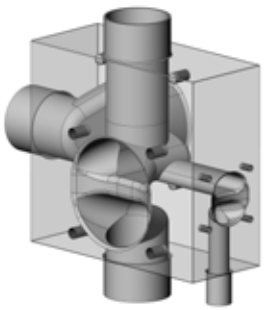


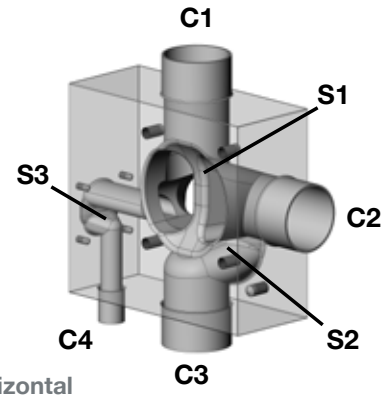


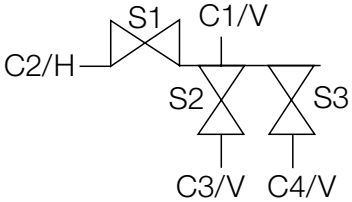


4 connections, 3 seats: 4 horizontal

0326

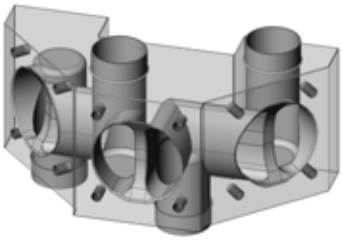


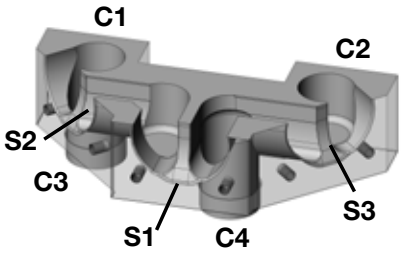


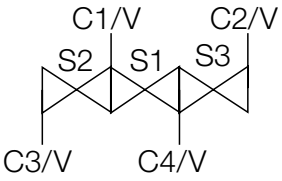


4 connections, 3 seats: 3 vertical, 1 horizontal

0329

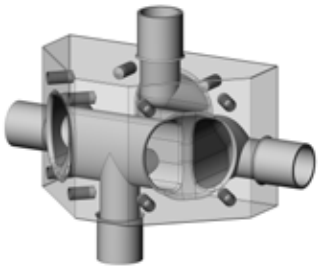


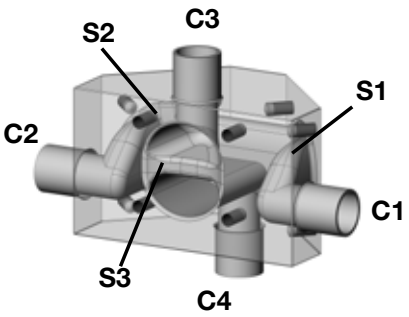


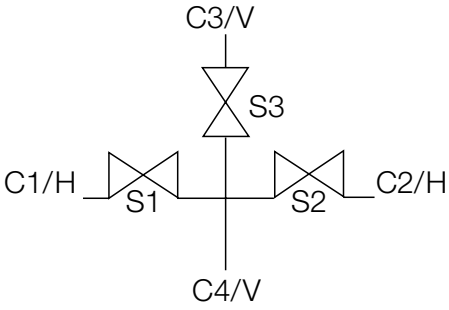


4 connections, 3 seats: 4 vertical

0335

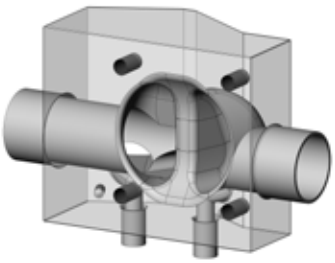


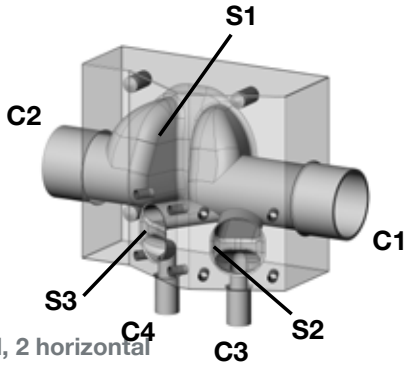


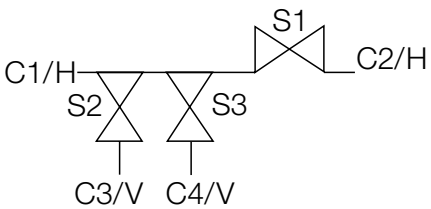


4 connections, 3 seats: 2 vertical, 2 horizontal

0336

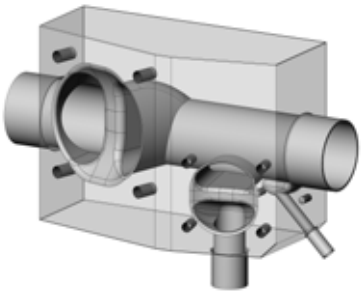


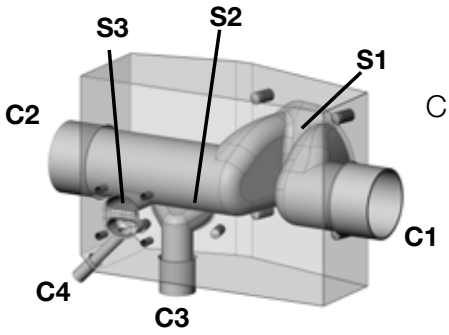


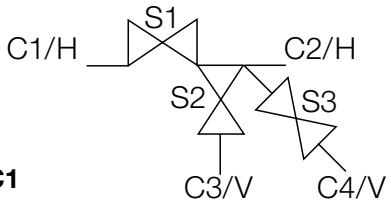


4 connections, 3 seats: 2 vertical, 2 horizontal

0337

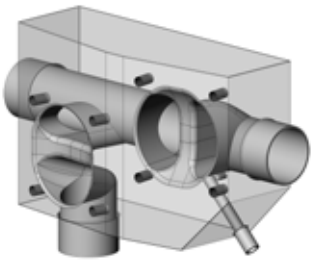


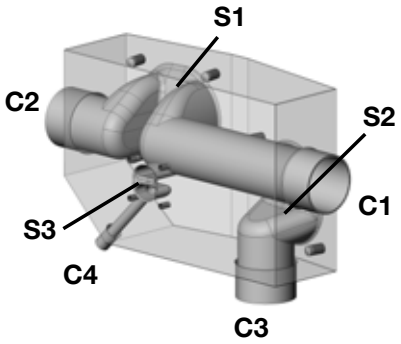


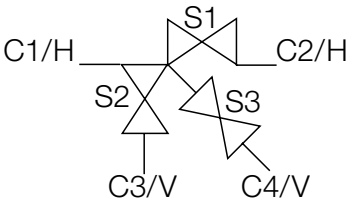


4 connections, 3 seats: 2 vertical, 2 horizontal

0338

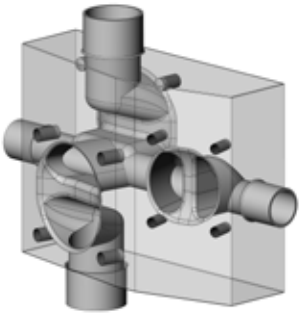


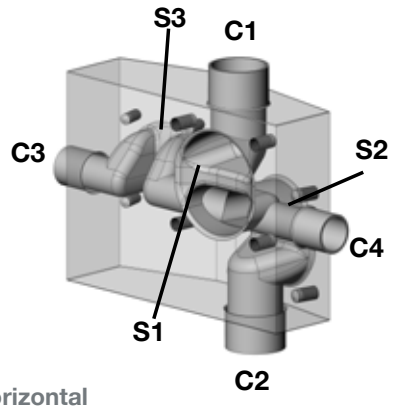


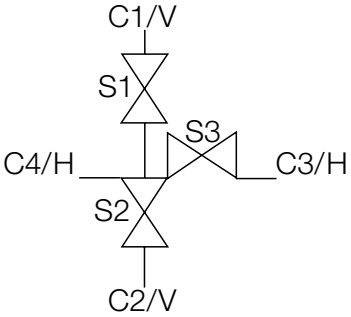


4connections, 3 seats: 2 vertical, 2 horizontal

0340

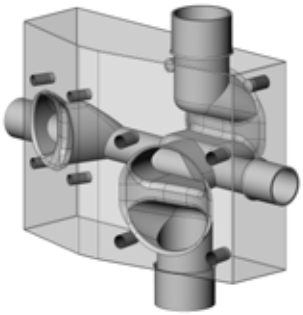


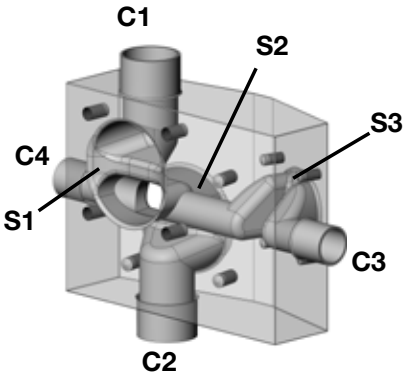


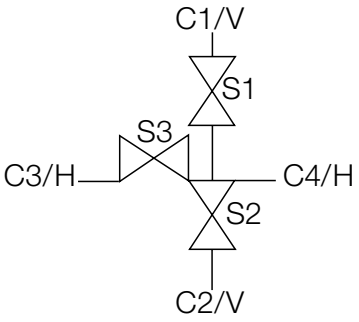


4 connections, 3 seats: 2 vertical, 2 horizontal

0341

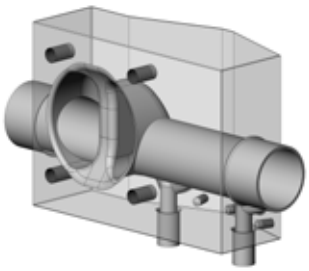


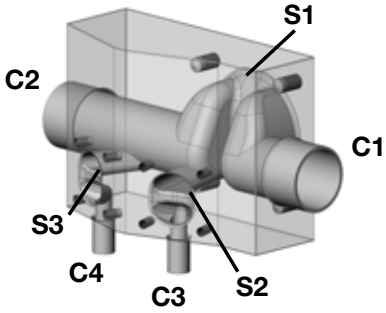


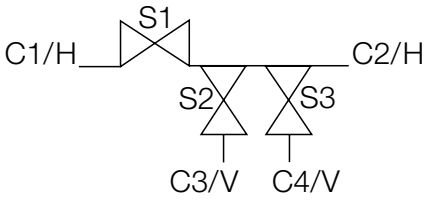


4 connections, 3 seats: 2 vertical, 2 horizontal

0343

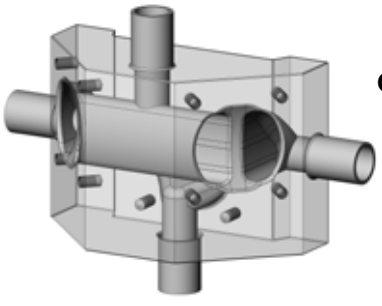


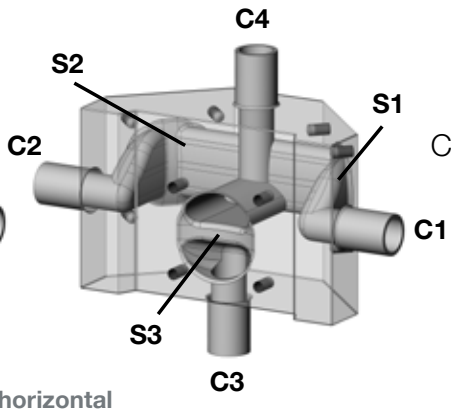


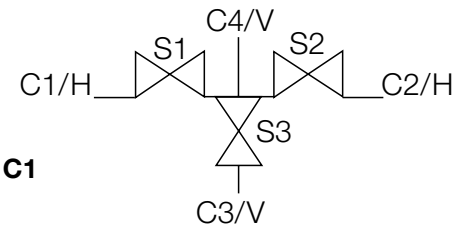


4 connections, 3 seats: 2 vertical, 2 horizontal

0344



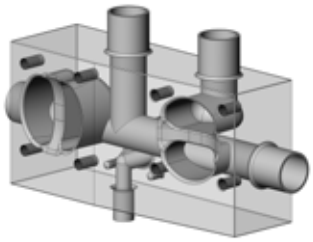


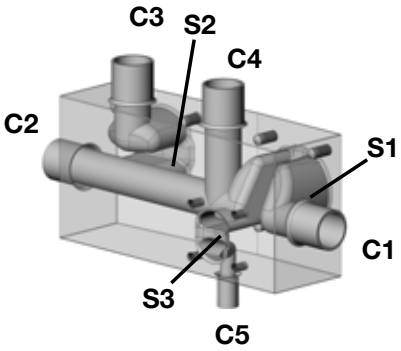


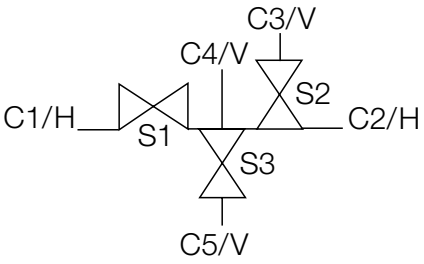
4 connections, 3 seats: 2 vertical, 2 horizontal

5C3S (5 connections / 3 seats)

0323

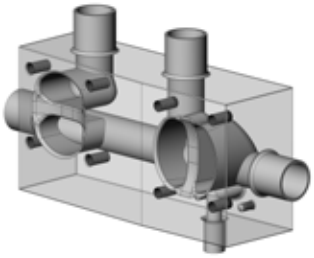


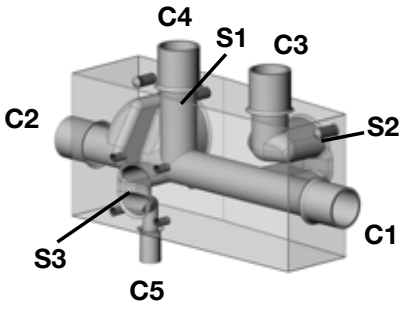


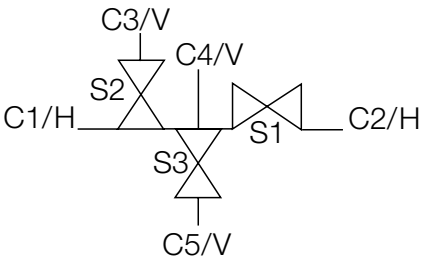


5 connections, 3 seats: 3 vertical, 2 horizontal

0327

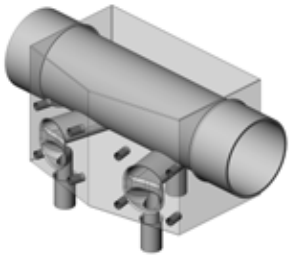


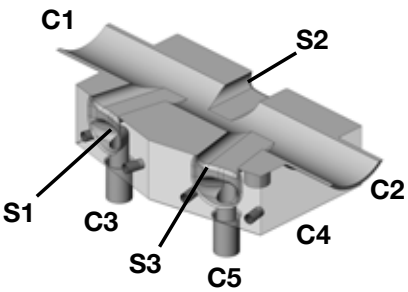


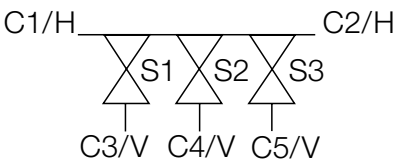


5 connections, 3 seats: 3 vertical, 2 horizontal

0342





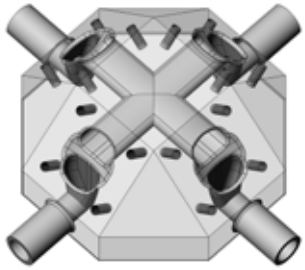


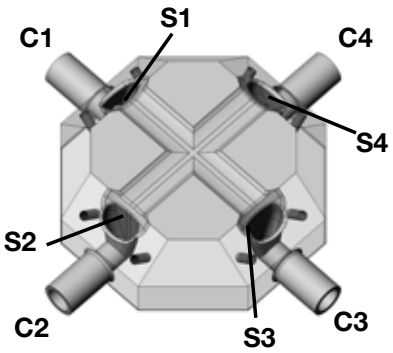
5 connections, 3 seats: 3 vertical, 2 horizontal

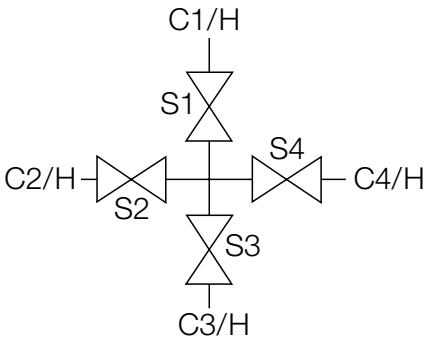
Block Solution with 4 seats

4C4S (4 connections / 4 seats)

0413

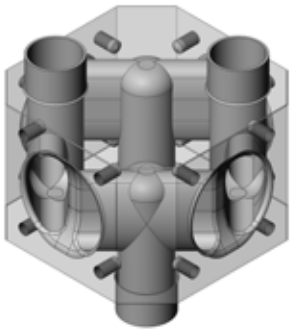


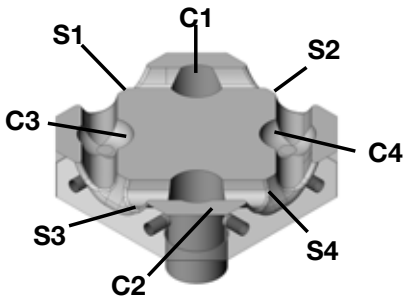


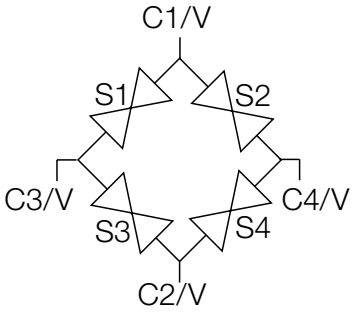


4 connections, 4 seats: 4 horizontal

0415

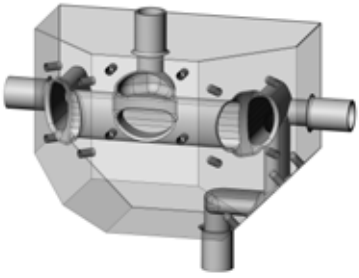


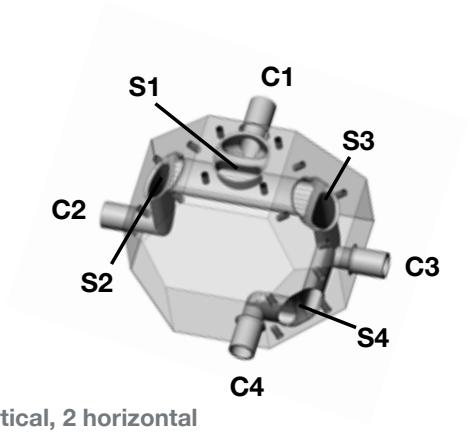


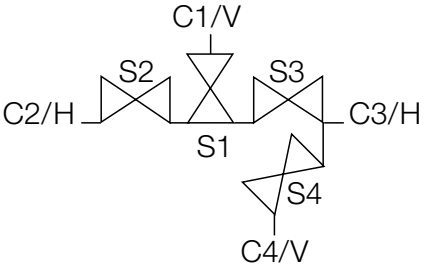


4 connections, 4 seats: 4 vertical

0418

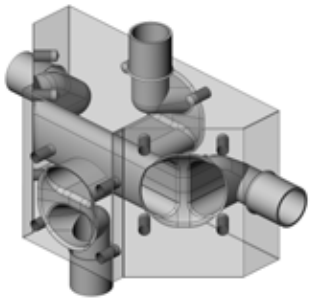


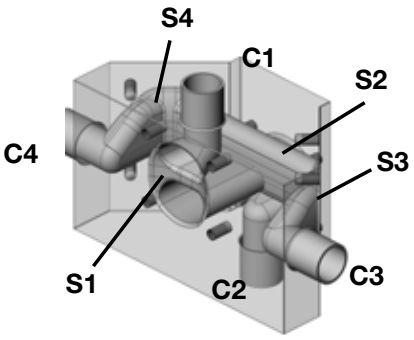


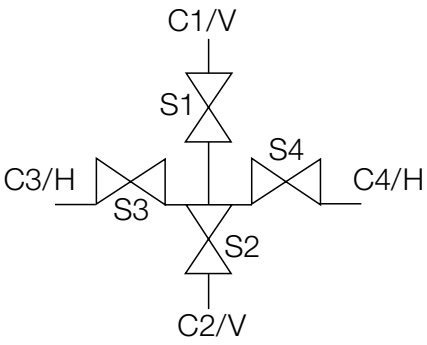


4 connections, 4 seats: 2 vertical, 2 horizontal

0423

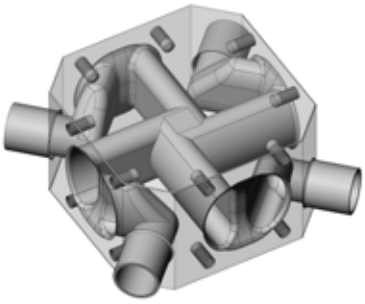


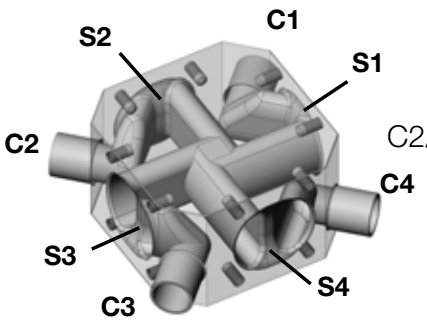


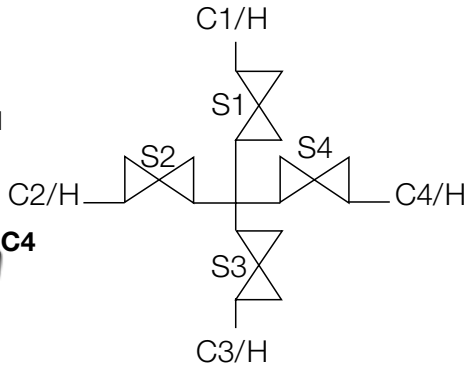


4 connections, 4 seats: 2 vertical, 2 horizontal

0410

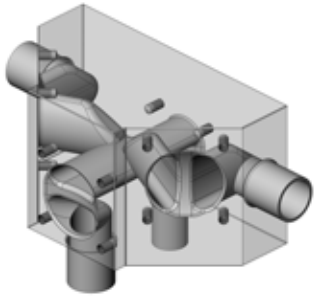


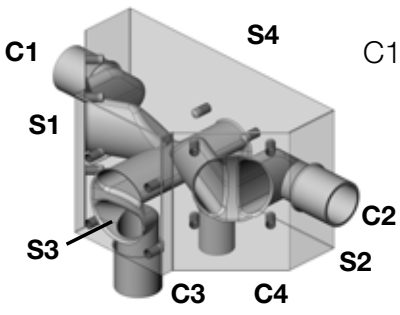


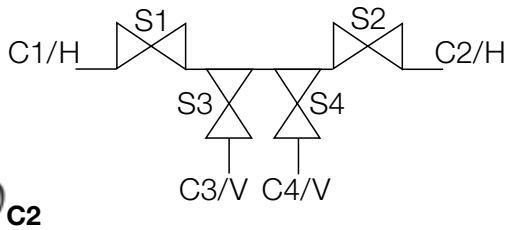


4 connections, 4 seats: 4 horizontal

0409



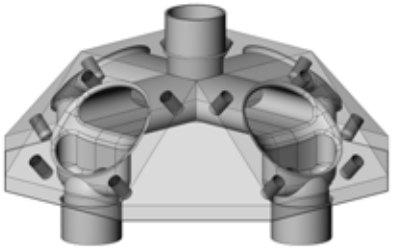


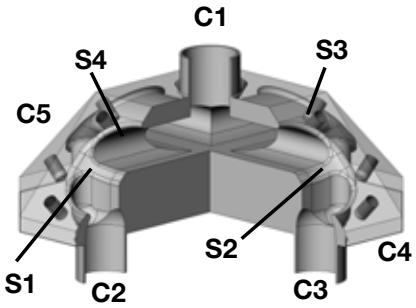


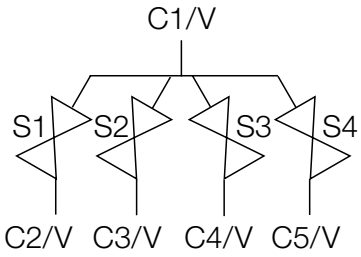
4 , 4 seats: 2 vertical, 2 horizontal

5C4S (5 connections / 4 seats)

0403

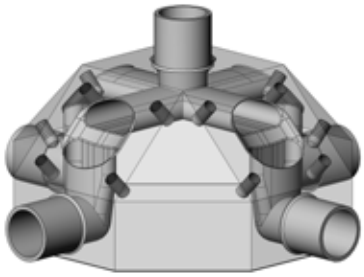


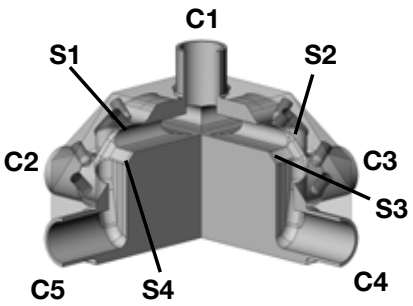


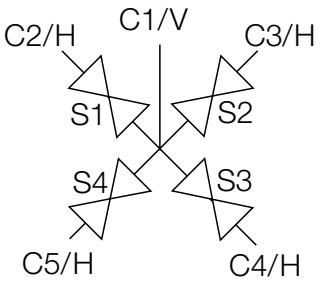


5 connections, 4 seats: 5 vertical

0416

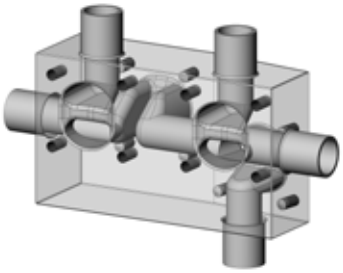


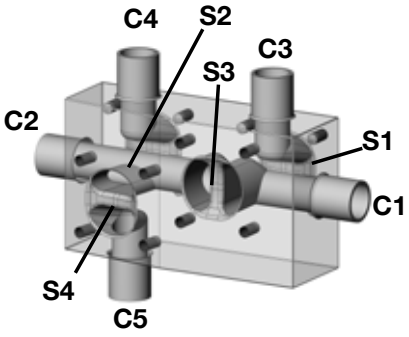


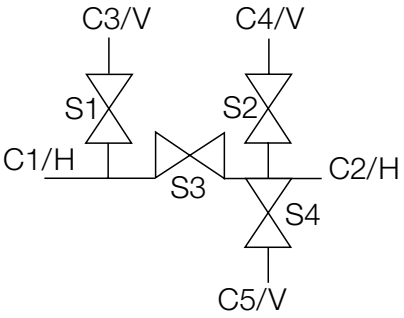


5 connections, 4 seats: 1 vertical, 4 horizontal

0492



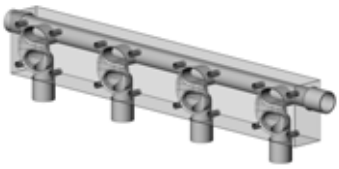


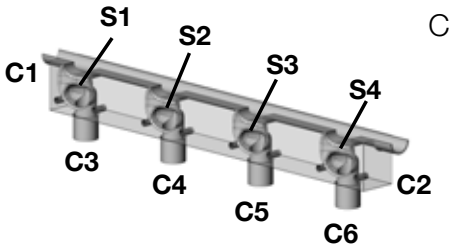


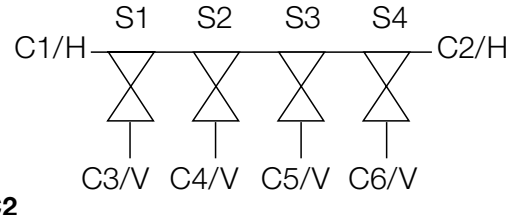
5 connections, 4 seats: 3 vertical, 2 horizontal

6C4S (6 connections / 4 seats)

0417

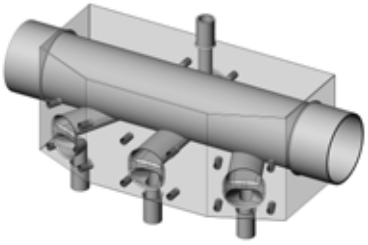


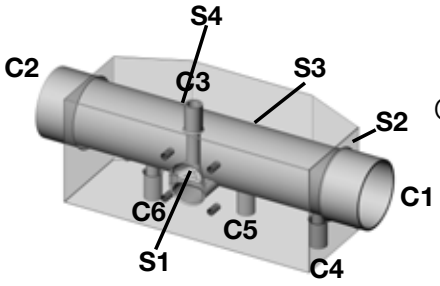


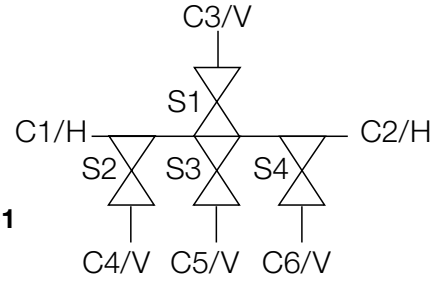


6 connections, 4 seats: 4 vertical, 2 horizontal

0424

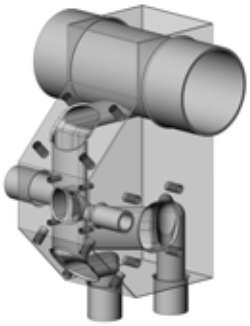


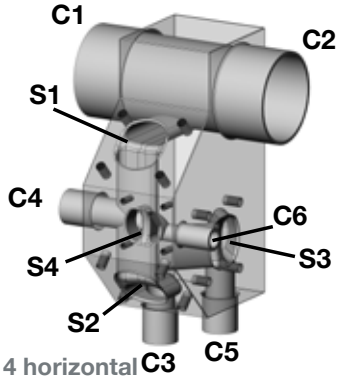


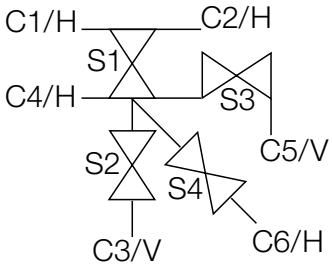


6 connections, 4 seats: 4 vertical, 2 horizontal

0425

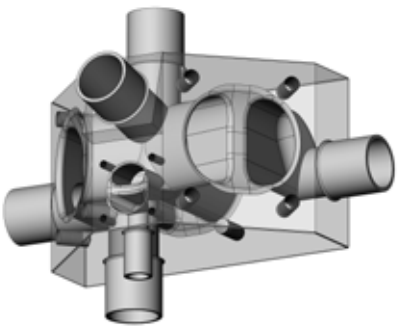


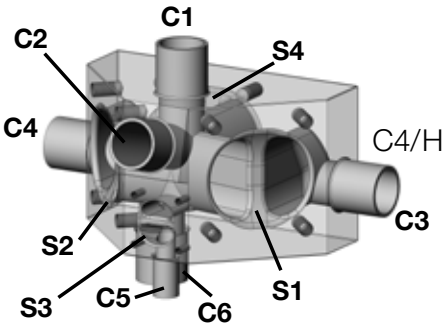


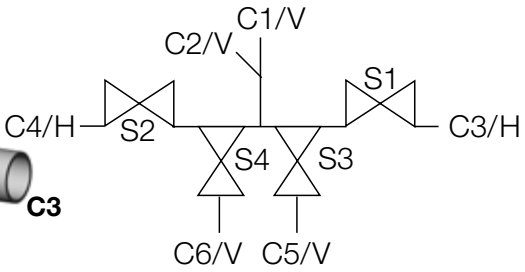


6 connections, 4 seats: 2 vertical, 4 horizontal

0476



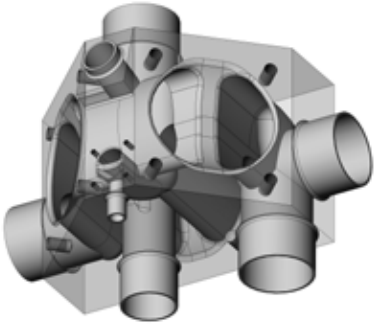


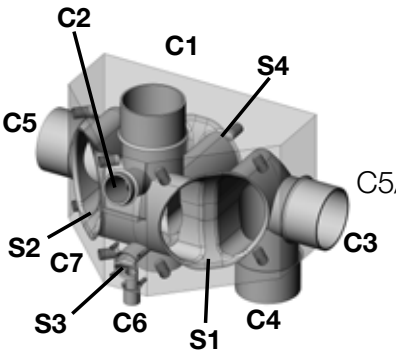


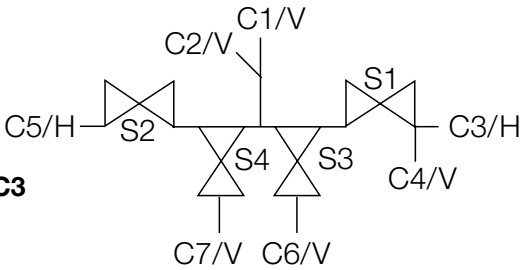
6 connections, 4 seats: 4 vertical, 2 horizontal

7C4S (7 connections / 4 seats)

0477





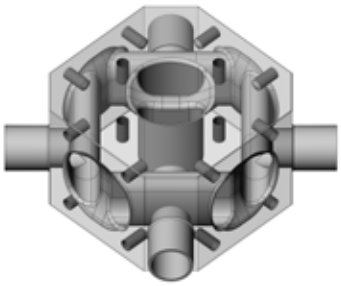


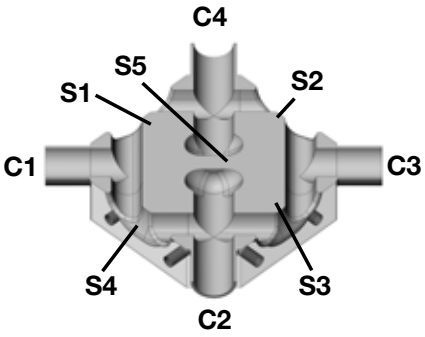
7 connections, 4 seats: 5 vertical, 2 horizontal

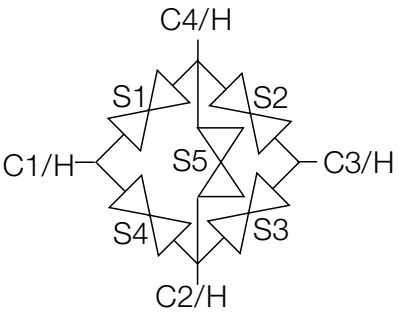
Block Solution with 5 seats

4C5S (4 connections / 5 seats)

0501





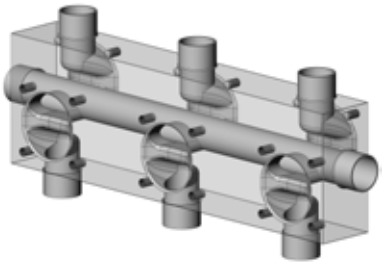


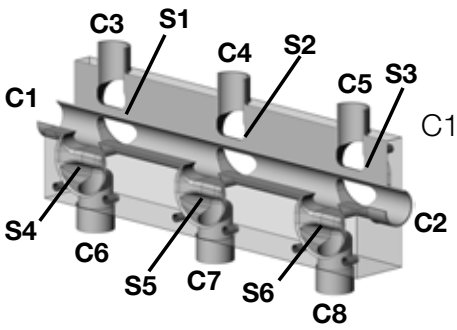
4 connections, 5 seats: 4 horizontal

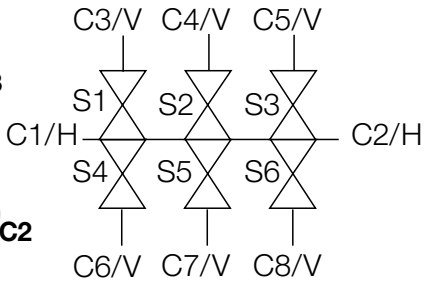
Block Solution with 6 seats

8C6S (8 connections / 6 seats)

0602





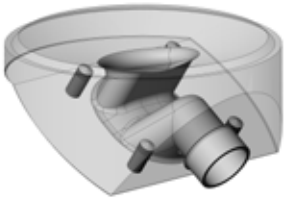


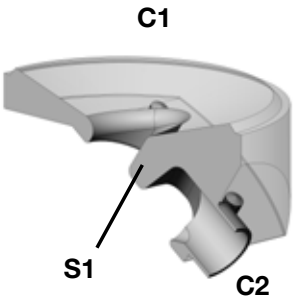
8 connections, 6 seats: 6 vertical, 2 horizontal

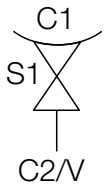
Block Solution for tanks

Tank bottom valve

Tank valve Standard

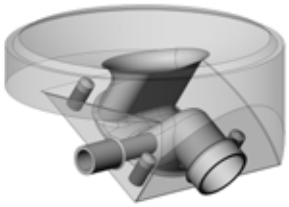


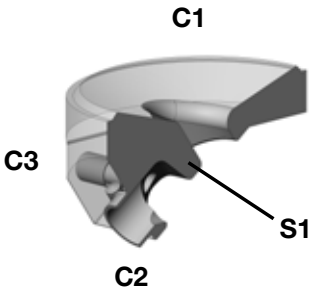


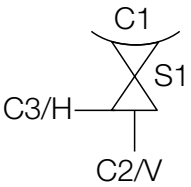


2 connections, 1seat: 2 vertical

NBxx left

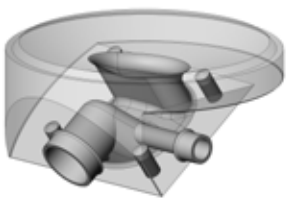


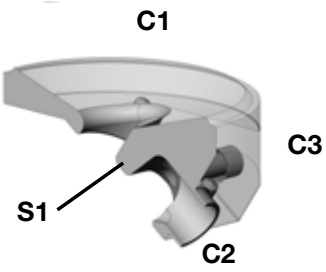


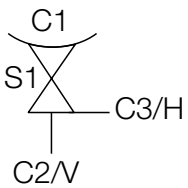


3 connections, 1seat: 2 vertical, 1 horizontal

NBxx right



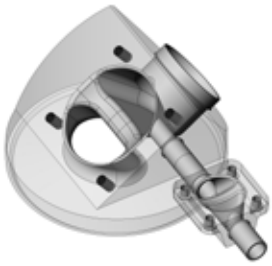


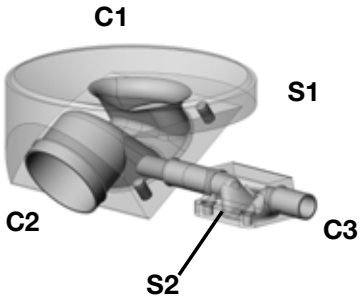


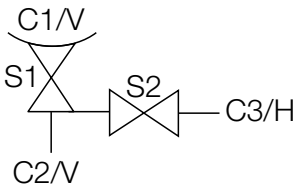
3 connections, 1seat: 2 vertical, 1 horizontal

Tank bottom valve with welded on diaphragm valve

0231

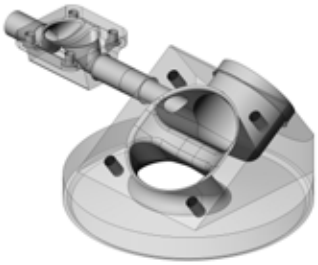


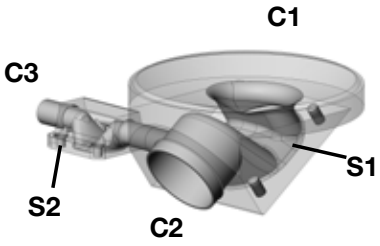


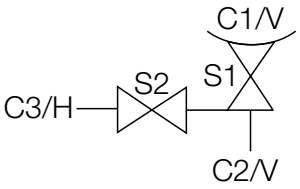


3 connections, 2 seats: 2 vertical, 1 horizontal

0243

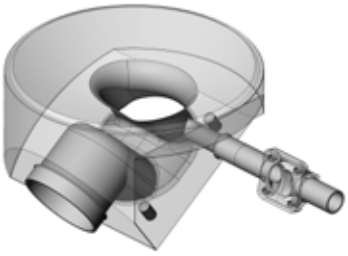


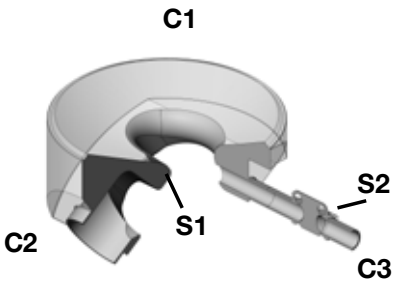


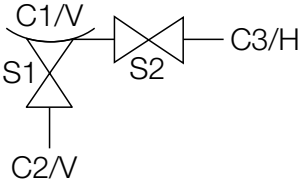


3 connections, 2 seats: 2 vertical, 1 horizontal

0247

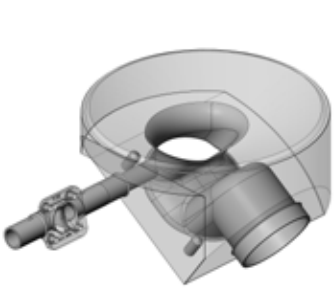


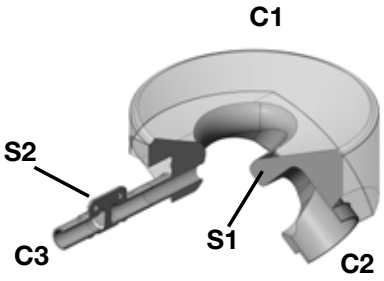


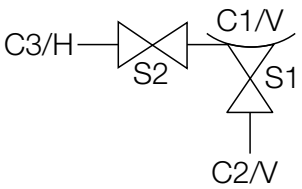


3 connections, 2 seats: 2 vertical, 1 horizontal

0244

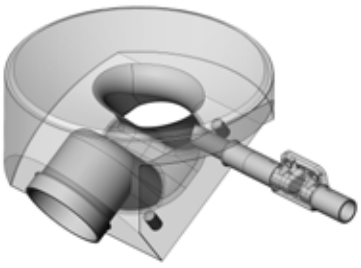


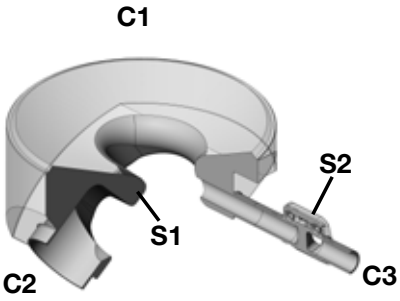


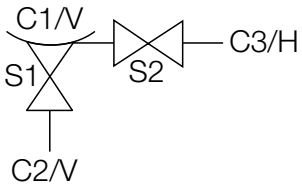


3 connections, 2 seats: 2 vertical, 1 horizontal

0248

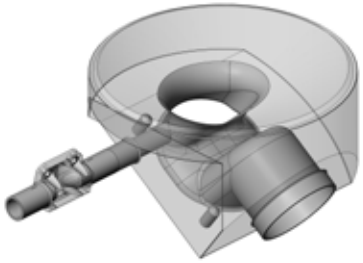


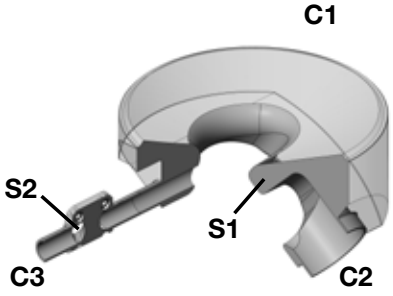


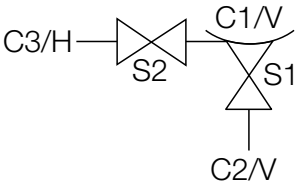


3 connections, 2 seats: 2 vertical, 1 horizontal

0245

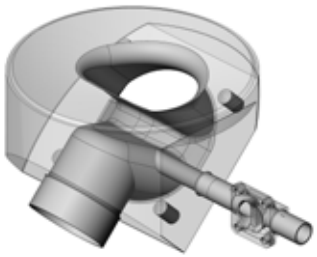


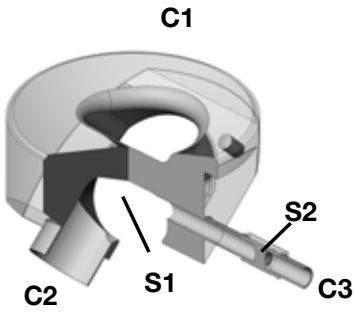


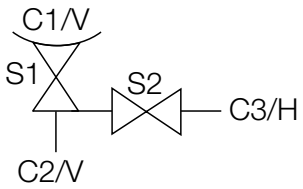


3 connections, 2 seats: 2 vertical, 1 horizontal

0241

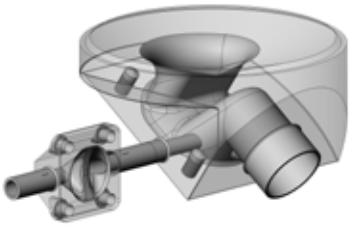


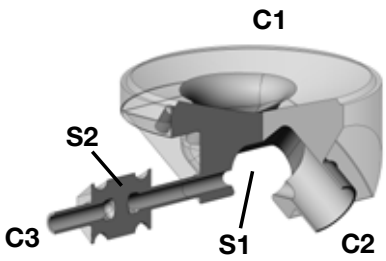


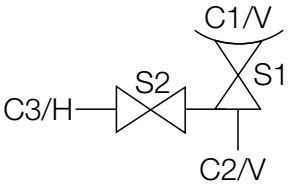


3 connections, 2 seats: 2 vertical, 1 horizontal

0242

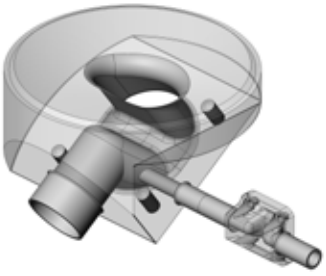


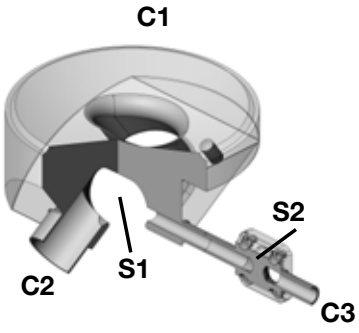


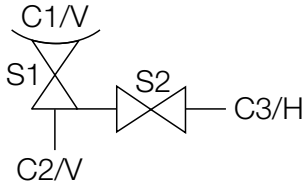


3 connections, 2 seats: 2 vertical, 1 horizontal

0239

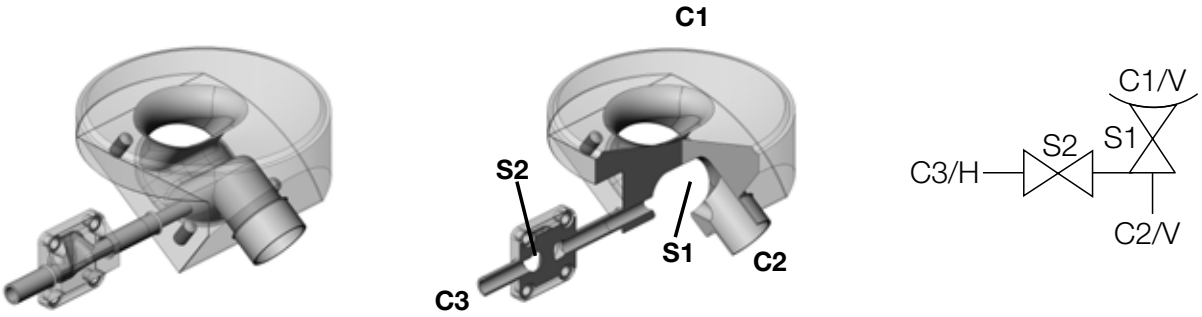






3 connections, 2 seats: 2 vertical, 1 horizontal

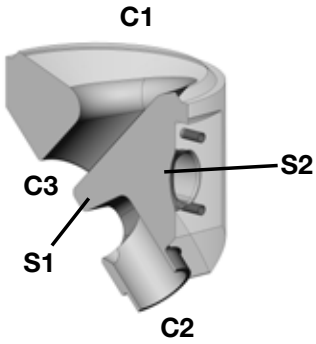
0240

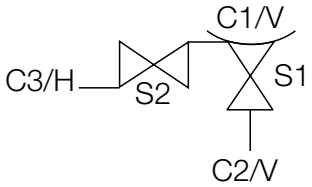


3 connections, 2 seats: 2 vertical, 1 horizontal

Tank bottom valve with integrated diaphragm valve

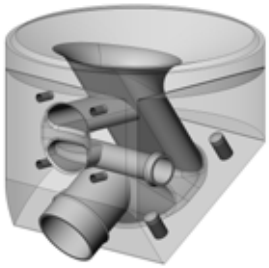
0252

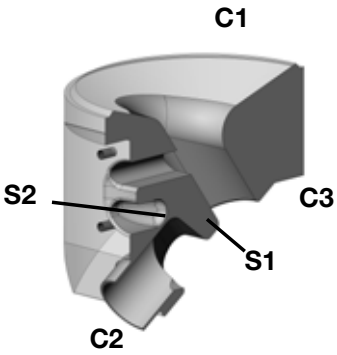


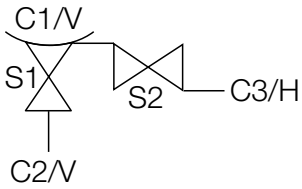


3 connections, 2 seats: 2 vertical, 1 horizontal

0229

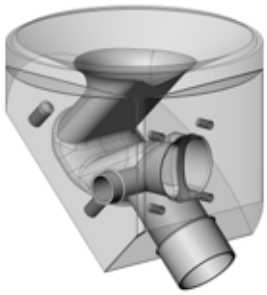


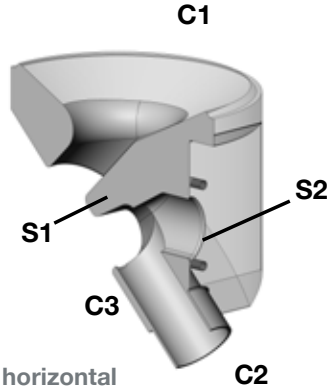


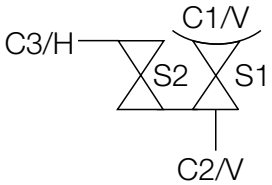


3 connections, 2 seats: 2 vertical, 1 horizontal

0251

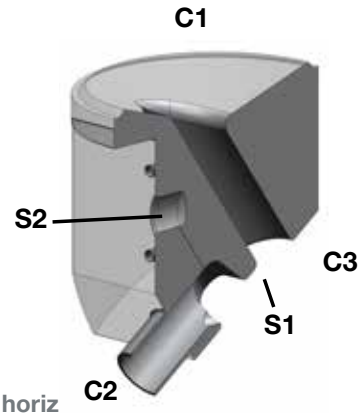


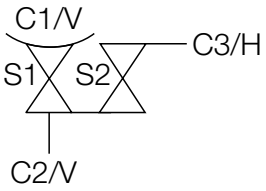




3 connections, 2 seats: 2 vertical, 1 horizontal

0206

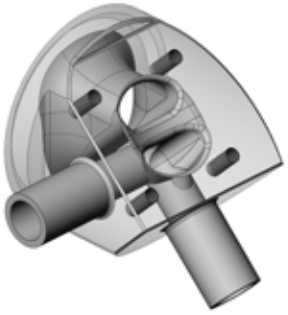


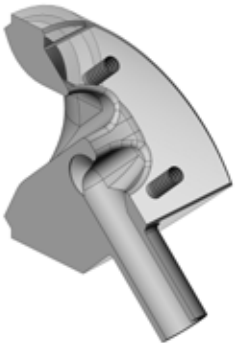


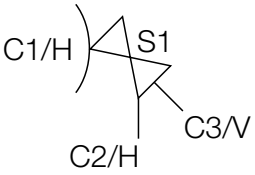
3 connections, 2 seats: 2 vertical, 1 horiz

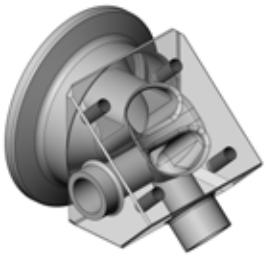
Examples of customer specific block solutions for tanks

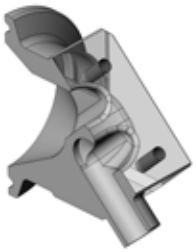
Tank wall solutions

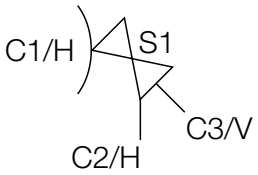


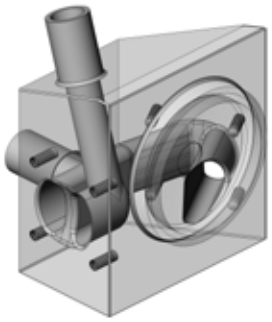


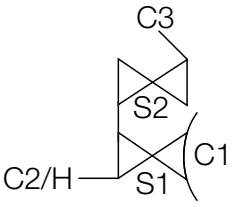




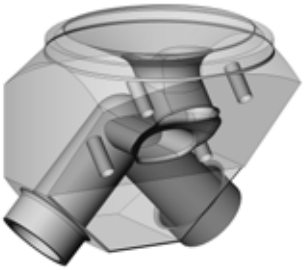


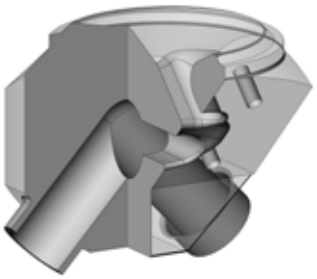


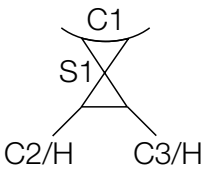


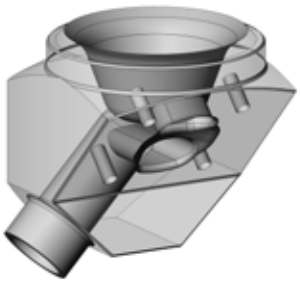


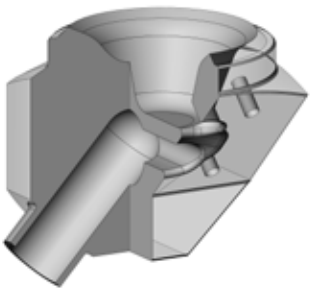
Tank bottom solutions

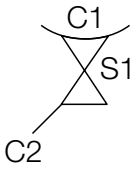


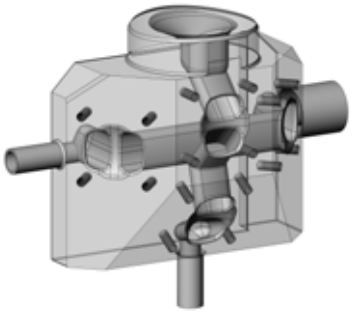


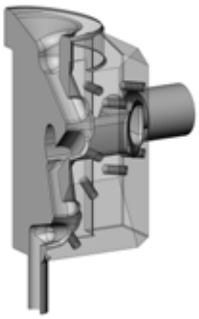


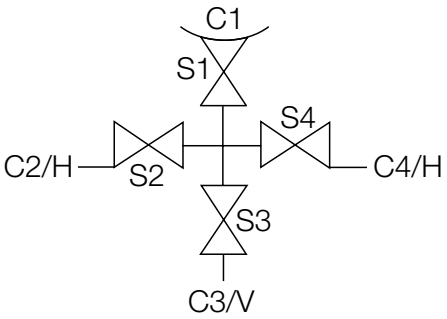


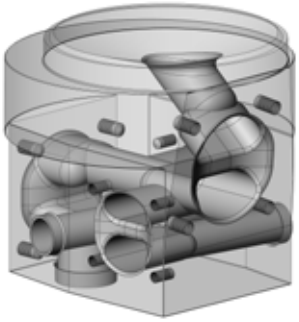


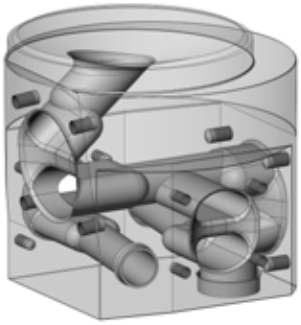


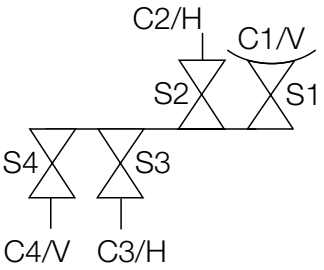




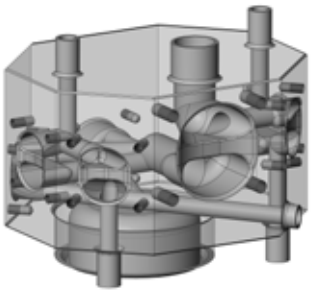


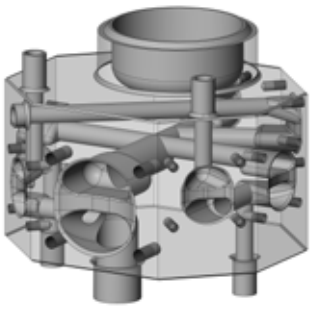


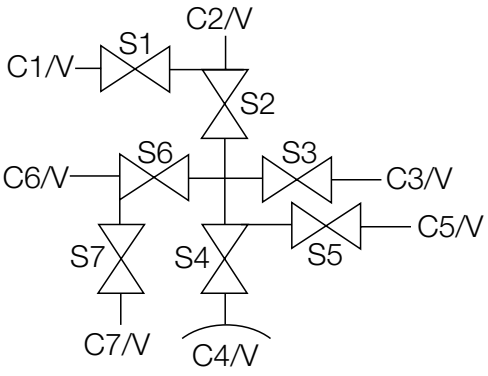




Tank top solutions

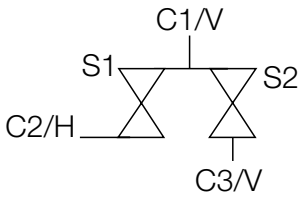




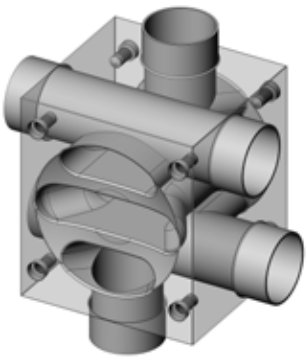


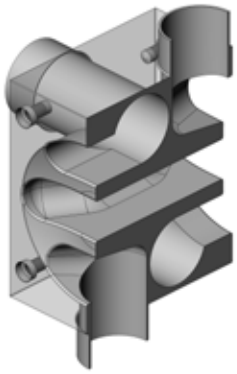
Specific solutions

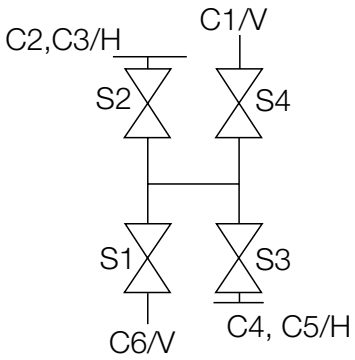
Sampling system



Mix proof valve







Further information

Block valve data- and specification sheet

Type 2034

Actuators

Type 2103

Type 2031

Type 2063

Type 3323

Type 2036

Type 3233

Accessories for pneumatic actuators

Type 2XXX

Control heads for pneumatic actuators

Type 8685

Type 8686

Type 8690

Type 8691

Type 8692

Type 8693

Type 8694

Type 8695

Type 8696

Type 8697

Diaphragm brochure

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