SPECIFICATION DATA
V300-2016-R0

3-WAY
DESIGN OF VALVE

SERIES
V300

UNICON

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MAIN PRODUCT FEATURE

- **High capacity**
  Broad and streamlined fluid passage can pass larger amount of fluid than other 3-way valves of the same size.
- **Stable Operation**
  Port and cage guiding makes the operation of the plug stable regardless of plug travel.
- **Durability**
  Rugged structure and smooth operation guarantee a long maintenance - free service life.

V300 SERIES

- The V300 Series valve is a 3-way design of valve for use on blending two separate flows, by having two inlets and a common outlet port or dividing a flow into two proportional parts by having one common inlet and two outlet ports.
- The V300 Series valve with pneumatic or electric actuator with many extension possibilities and a wide range of applications. The basic equipment is fitted with a mixing or diverting plug and strong high capacity stem guiding and serves at the same time as basis for multiple types of execution.
- Seat are not welded and can be unscrewed and serviced even after years of operation. Exchanging of seat and plug can be completed within few minutes.
- This range of valves has been designed in three forms designated V310, V320 and V330, the V310 and V330 conventional type is to provide an economic solution for all mixing and selected diverting services. V320 balanced trim is specially designed for high duty diverting service applications

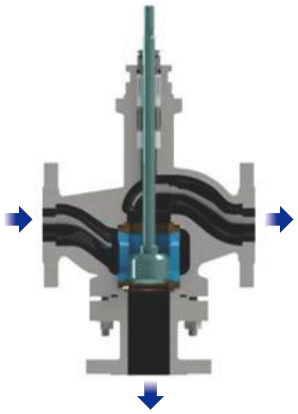
FLEXIBILITY

Various body and trim types provide design versatility for your needs.

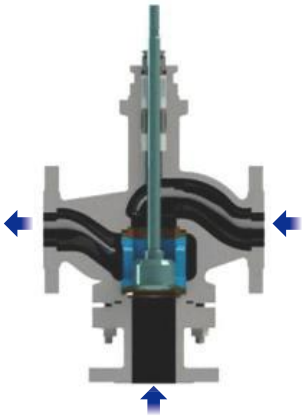
- V310
  This configuration features and unbalanced plug for simple maintenance and economical installation.
  Designed with two side and one bottom pipeline connections.
- V320
  This configuration uses a balanced plug design to minimize the actuator forces and provide stable control in large valve sizes with pneumatic actuators.
  The quick change trim with the plug accessible from the bonnet allows for easy maintenance.
  Designed with two side and one bottom pipeline connections.
- V330 Series
  This design combines an unbalanced plug with a Top-Entry Quick Change Trim. Designed with two side and one bottom pipeline connections.

UNICON BODY STYLES

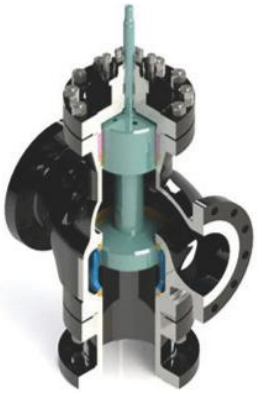
V310 Series



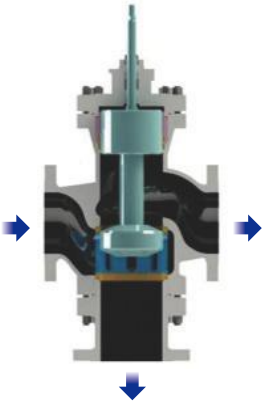
DIVERTING



MIXING

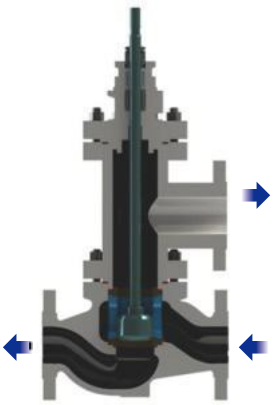


V320 Series

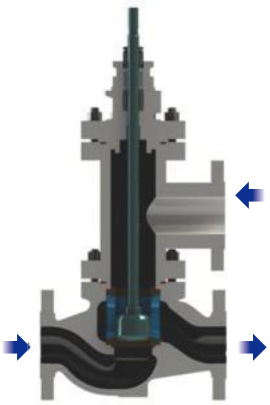


DIVERTING

V330 Series

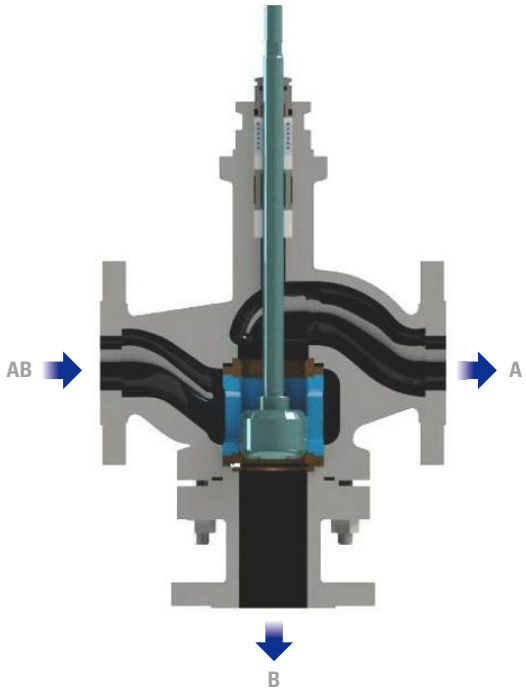


DIVERTING

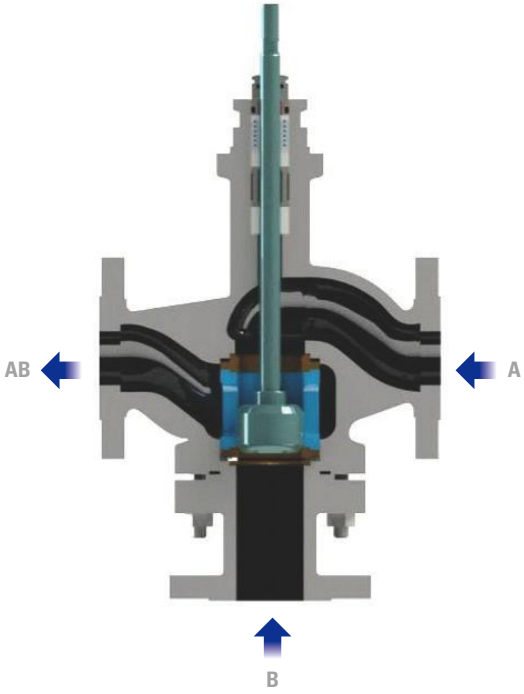


MIXING

FLOW DIVERTING



FLOW MIXING



The flow AB is divided into two exit flow A and B. In both series the direction of the flow is always against the plug. Standard diaphragm actuators can be used without special devices as for instance hydraulic brakes. The plugs are guided directly in the upper and seat, in the best way.

The entrance flows A and B are mixed to single exit flow AB. Typical application : temperature control.

Both types, mixing and diverting, are built from the same parts of the modular part system. The bodies are chosen from the standard straight-through valve bodies, which grants a quick delivery. The plugs for mixing and dividing are identical.

Three Way Valve
with Diaphragm Actuator

Three Way Valve
with Electro Motor Actuator

STANDARD SPECIFICATION

V310 / V330 Series Mixing & Diverting 3Way Valve
V320 Series Balanced Plug Type Diverting 3Way Valve

	V310 SERIES	V330 SERIES	V320 SERIES
BODY TYPE	Bottom Flanged 3Way	Top Flanged 3Way	Bottom Flanged 3Way
BONNET	Plain (Built in)	Plain (Standard), Fin & Extension Bellows Seal	Plain (Standard), Fin & Extension, Bellows Seal
SIZE RANGE	Mixing : 1" to 12" (DN25 to DN300) Diverting : 1" to 4" (DN25 to DN100)		3" to 12" (DN80 to DN300)
PRESSURE RATING	ANSI 150LBS to 300LBS (JIS 10K to 20K)		ANSI 150LBS to 600LBS (JIS 10K to 40K)
OPERATING PRESSURE RANGE	Up to 300psi (g) {Up to 20Kg/cm² (g)}		Up to 900psi (g) {Up to 63Kg/cm² (g)}
OPERATING TEMPERATURE RANGE	-58˚F to +1,050˚F (-50˚C to +565˚C)		
END CONNECTION	Socket Weld – ANSI B16.11, Butt Weld – ANSI B 16.25 FF/RF/RTJ Flange – ANSI B 16.5 (Option : JIS Flange, DIN Flange, NPT/PT Screw)		
BODY MATERIALS	Carbon Steel(WCB, WCC, A105) Chrome-moly Steel(WC6, WC9, C12A, F11, F22, F91) Stainless Steel(CF8, CF8M, CF3, CF3M, F304, F304L, F310, F316L) Duplex Stainless Steel, Monel, AL Bronze, Inconel 625 Hastelloy B/C, Other Alloy		
TRIM MATERIALS	316 SS, 316 SS + Stellite #6, Hardened 410 SS / 440C SS 17-4PH, F22(Nitride treatment), F51		
ACTUATOR	Pneumatic Diaphragm, Pneumatic Cylinder Electric Motorized, Electric Hydraulic		
TRIM STYLE	V-Port, Window Cage, Drilled Hole Cage		
PLUG GUIDE METHOD	Cage Guide		
Cv RANGE	Up to 1800		
FLOW CHARACTERISTIC	Linear, Equal %, Modified Equal %, Quick Open		
SEAT LEAKAGE	FCI-70.2, Standard : ANSI Class IV Option : ANSI Class V , ANSI Class VI (Soft Seat), MSS-SP61		

NUMBERING SYSTEM

V	0	0	0	-	1	2	3	4	5	6

Valve Constructions

000. VALVE SERIES	
310	BOTTOM FLANGED 3WAY VALVE
320	BALANCED PLUG TYPE DIVERTING 3WAY VALVE
330	TOP FLANGED 3WAY VALVE

1. BODY SIZE (INCH)			
CODE	INCH	CODE	INCH
15	5/8	B0	8
20	3/4	B5	10
25	1	C0	12
32	1-1/4	C5	14
40	1-1/2	D0	16
50	2	D5	18
65	2-1/2	E0	20
80	3	E5	22
A0	4	F0	24
A2	5	YY	SPECIAL
A5	6		

2. PRESSURE RATING					
1	KS(JIS)10K	N	DIN PIN 16	B	ANSI 150LB
7	KS(JIS)16K	P	DIN PIN 25	D	ANSI 250LB
2	KS(JIS)20K	Q	DIN PIN 40	E	ANSI 300LB
3	KS(JIS)30K	R	DIN PIN 63	F	ANSI 400LB
4	KS(JIS)40K	S	DIN PIN 100	H	ANSI 600LB
6	KS(JIS)63K	T	DIN PIN 250	K	ANSI 900LB
		Y	SPECIAL	L	ANSI 1500LB
				M	ANSI 2500LB
				Z	ANSI 4500LB

3. END CONNECTION	
P	RF THREAD
R	RF FLANGED
U	UNICON
F	FF FLANGED
B	BUTT WELDING
C	TRY CLAMP
S	SOCKET WELDING
T	RING JIONT
N	NPT THREAD
L	LARGE GROOVE
M	MALE & FEMALE
W	WAFER (BOLTED)
Y	SPECIAL

4. BONNET TYPE	
P	STANDARD
C	CRYOGENIC
E	EXTENSION
F	FORM BELLOWS
W	WELD BELLOWS
J	JACKET
Y	SPECIAL

5. BODY & BONNET MATERLAL	
1	CAST STEEL(SCPH2) / A105
2	SSC13(SUS304) / A1351CF8
3	SSC14(SUS316) / A351 CF8
4	SSC 14(SUS316)
A	CHROME MOLY (WC6)
B	CHROME MOLY (WC9)
F	CHROME MOLY (F11)
K	CHROME MOLY (F22)
Y	SPECIAL

Trim Constructions

6. TRIM TYPE	
1	Unbalanced
2	Balanced
3	Auxiliary Pilot
Y	SPECIAL

7. FLOW CHARACTERISTIC	
F	EQUAK PERCENTAGE
L	LINEAR
Q	ON-OFF (QUICK-OPEN)
M	MODIFIED EQ %
D	MODIFIED LINEAR %

8. STEM TYPE	
S	STANDARD
B	BELLOWS
Y	SPECIAL

9. PLUG TYPE	
P	P-PORT
F	FLAT
M	MULTI - STEP
Y	SPECIAL

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