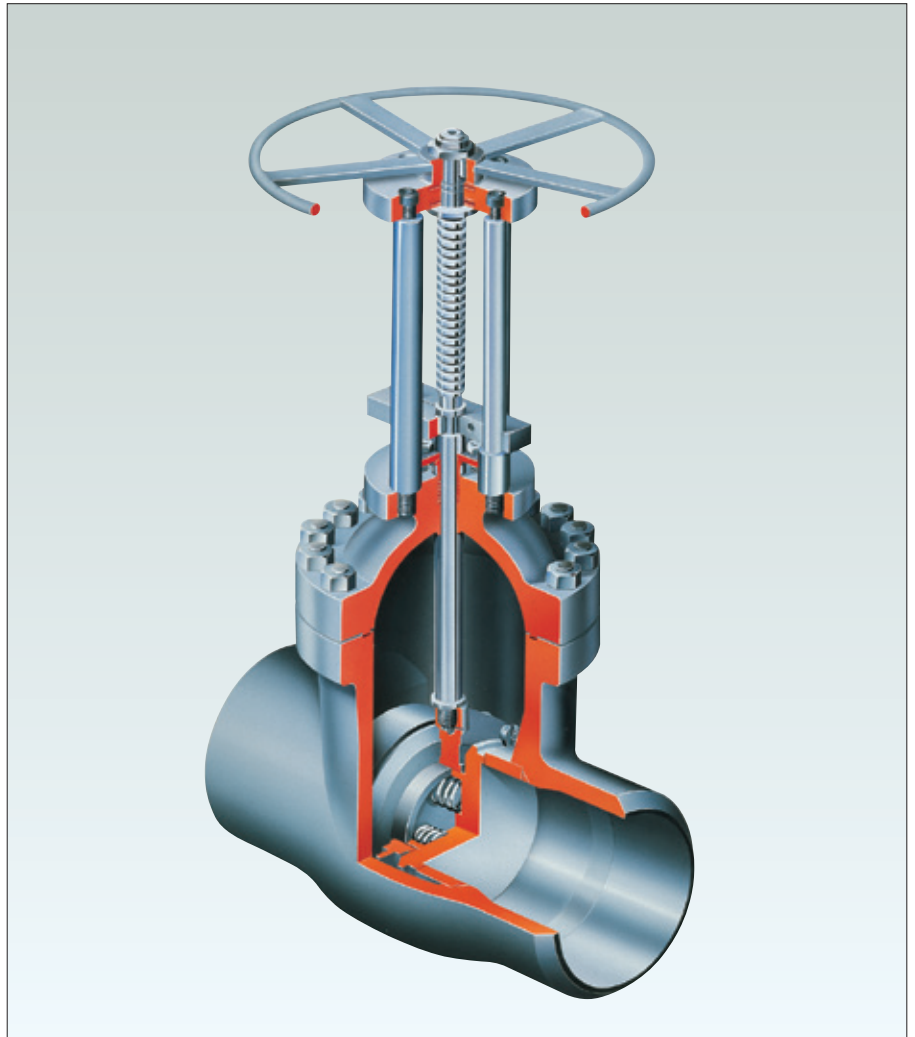


## DEWRANCE

### Features & Benefits

- Excellent Reliability
  - Self cleaning action between disk & seat
  - Welded-in seats hard-faced with Stellite® or Equivalent
  - Low Cost Maintenance
  - Lower operating forces than wedge gate design
  - Interchangability of parts
  - Simplified seat refurbishment (only requires flat lapping, no critical angles to be matched to ensure sealing capability)
- Improved Performance
  - Lower pressure drop characteristic than wedge gate valve
  - Reduced actuator size/cost by 30% when compared to wedge gate
  - Improved sealing assisted by line pressure
  - Low operating torque, seals on position not torque
- Typical Applications
  - L.P. Steam Isolation
  - Boiler Feed Pump Isolation
  - L.P. Feed Heater Isolation & By-Pass
  - Blow Down Service
  - Blow Off Service
  - Gland Steam System Drains
  - Steam Turbine Inlet Isolation
  - Economizer Recirculation
  - Spray Water
  - Attemperator Spray
  - Steam Blow and Start Up

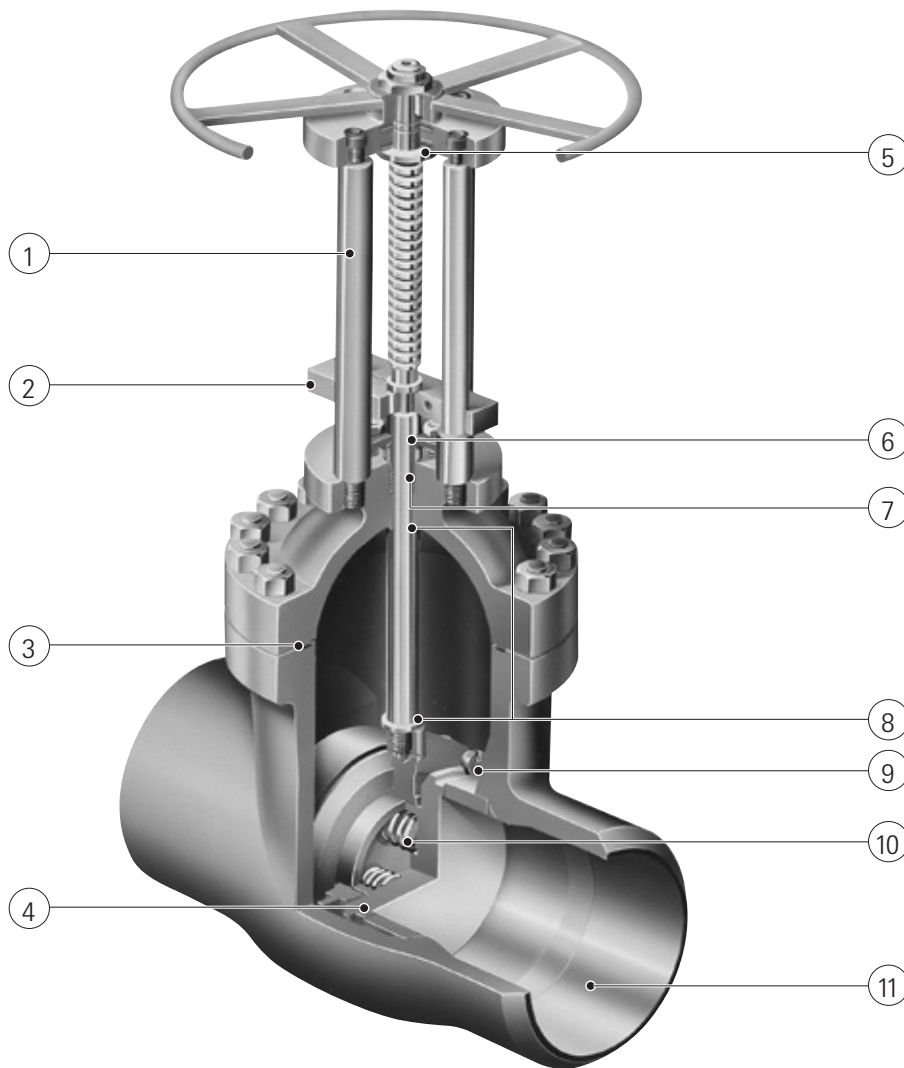


### Technical data

Sizes	: 10" – 20"
ASME	: B16.34 – 1996
Valve overall lengths to:	ASME B16.10 – 1992
Pressure Class	: 600

# Parallel Slide Gate Valves

Low pressure Cast Steel



## Legenda

- 1 Four pillar design for rigidity and accessibility.
- 2 Stem stop clearly indicates valve position & prevents stem rotation.
- 3 Aluminium reinforced expanded graphite gasket located in tongue and groove.
- 4 Hard faced Stellite® or equivalent discs and seats.
- 5 Anti-friction bearings are fitted for direct handwheel operation.
- 6 Two piece gland.
- 7 Specially designed stuffing box to suit expanded graphite packing.
- 8 Hard faced Stellite® or equivalent back seat.
- 9 Disc Retainer.
- 10 Spring or springs to hold disc against seat face for initial sealing.
- 11 Modular body design accommodates a wide range of flanged and weld connections.

## Note

By-pass and Drains can be supplied as required.

### Imperial 600 Class (ASME B16.34 1996)

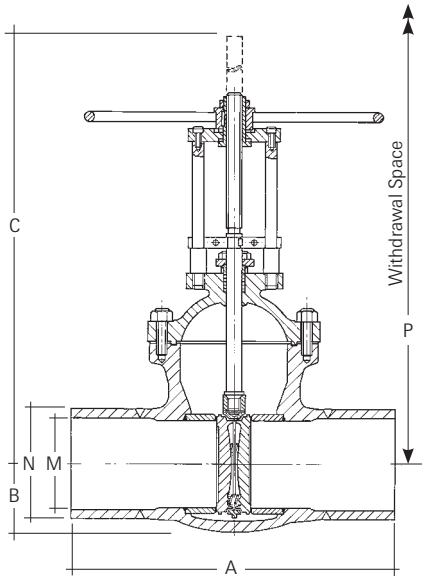
Prod. No.	ASTM		ASME code B16.34	-20° to 100°	Pressure in lbf/sq. in. at Temp. °F (for intermediate ratings use linear interpolation)																
	Body Mat. Cast				200	300	400	500	600	650	700	750	800	850*	900	950	975	1000	1025	1050	1075
P51	E	A216	Std.	1480	1350	1315	1270	1200	1095	1075	1065	1010	825	535	-	-	-	-	-	-	-
P51	E	WCB	Spec.	1500	1500	1500	1500	1500	1425	1400	1390	1260	1030	670	-	-	-	-	-	-	-
P51	J	A217	Std.	1500	1500	1445	1385	1330	1210	1175	1135	1065	1015	975	900	640	535	430	360	290	240
P52	J	WC6	Spec.	750	750	750	750	750	750	750	735	730	720	680	585	400	335	270	225	180	150
P52	L	A217	Std.	1500	1500	1455	1410	1330	1210	1175	1135	1065	1015	975	900	755	638	520	435	350	285
P52	L	WC9	Spec.	1500	1500	1485	1450	1440	1440	1430	1425	1380	1345	1285	1200	945	798	650	543	435	355

### Metric 600 Class (ASME B16.34 1996)

Prod. No.	ASTM		ASME code B16.34	-30° to 38°	Pressure in Bar at Temp. °C (for intermediate ratings use linear interpolation)																
	Body Mat. Cast				50	100	150	200	250	300	350	375	400	425	450*	475	500	525	550	575	600
P51	E	A216	Std.	102.0	100.0	92.8	90.6	87.8	83.6	77.5	74.0	72.9	69.1	57.6	40.1	-	-	-	-	-	-
P51	E	WCB	Spec.	103.4	103.4	103.4	103.4	103.4	103.4	99.7	96.4	94.6	86.2	72.0	50.2	-	-	-	-	-	-
P51	J	A217	Std.	103.4	103.4	103.0	99.5	95.8	92.4	85.7	80.4	77.6	73.3	70.2	67.7	63.4	50.6	36.3	25.4	17.7	12.0
P52	J	WC6	Spec.	103.4	103.4	103.4	103.4	103.4	103.4	103.4	102.8	101.0	100.6	99.4	94.4	84.2	64.2	45.3	31.8	22.0	15.1
P52	L	A217	Std.	103.4	103.4	103.0	100.3	97.5	92.7	85.7	80.4	77.6	73.3	70.2	67.7	63.4	55.7	43.3	30.7	21.1	13.8
P52	L	WC9	Spec.	103.4	103.4	103.3	102.3	100.2	99.4	99.3	98.5	97.8	95.1	92.9	89.3	84.3	71.5	54.2	38.3	26.2	17.2

# Parallel Slide Gate Valves P51

Low pressure Cast Steel / 'P' Design, Butt Weld Ends



## Sizes 2"–20" ASME B16.34 600 Class

### Main component materials

Description	Carbon Steel	Alloy Steel
Body	A216 Gr WCB	A217 Gr WC6
Bonnet	A216 Gr WCB	A217 Gr WC6
Stem	AISI 431	AISI 431
Gland	Aluminium – Bronze ASTM B150 630	Aluminium – Bronze ASTM B150 630
Seats	A106	A182-F22
Yoke Sleeve	Aluminium – Bronze ASTM B150 630	Aluminium – Bronze ASTM B150 630
Handwheel	Cast Iron/Steel	Cast Iron/Steel
Disc	A516 Gr 70	A387 Gr 11
Gland Packing	Expanded Graphite	Expanded Graphite
Gasket	Expanded Graphite	Expanded Graphite

### Hydrostatic shell & seat leak test pressures

Press. Class	Material			
	ASTM A-216 WCB		ASTM A-217-WC6	
	Shell	Seat	Shell	Seat
600	2250 psi	1650 psi	2250 psi	1650 psi
600	156 bar	114 bar	156 bar	114 bar

### Dimensions

Size	A*	B	C	M	N	P	Weight	Cv	K Factor	Product Numbers	
										Carbon Steel WCB	Alloy Steel WC6
10 in 250 mm	31 787	6.5 164	48.38 1229	9.56 243	10.75 273	56.81 1443	802 lb 365 kg	7698	0.126	P51ES250P	P51JS250P
12 in 300 mm	33 838	7.63 194	57.17 1452	11.38 289	12.75 323.9	67.20 1707	1116 lb 507 kg	11086	0.122	P51ES300P	P51JS300P
14 in 350 mm	35 889	8.5 215	60.79 1544	12.5 318	14 355.6	71.30 1811	1477 lb 671 kg	13543	0.119	P51ES350P	P51JS350P
16 in 400 mm	39 991	9.25 235	68.39 1737	14.31 363	16 406.4	79.96 2031	1932 lb 878 kg	18027	0.116	P51ES400P	P51JS400P
18 in 450 mm	43 1092	10.31 262	77.87 1978	16.13 410	18 457.2	91.18 2316	2500 lb 1136 kg	23040	0.114	P51ES450P	P51JS450P
20 in 500 mm	47 1194	11.38 289	83.66 2125	17.94 456	20 508	97.64 2480	3275 lb 1489 kg	28884	0.111	P51ES500P	P51JS500P

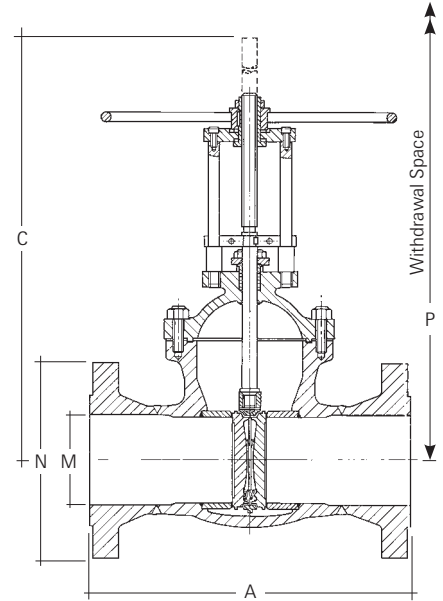
# Parallel Slide Gate Valves P52

Low pressure Cast Steel / 'P' Design, Flanged Ends

## Sizes 2"–20" ASME B16.34 600 Class

### Main component materials

Description	Carbon Steel	Alloy Steel
Body	A216 Gr WCB	A217 Gr WC6
Bonnet	A216 Gr WCB	A217 Gr WC6
Stem	AISI 431	AISI 431
Gland	Aluminium – Bronze ASTM B150 630	Aluminium – Bronze ASTM B150 630
Seats	A106	A182-F22
Yoke Sleeve	Aluminium – Bronze ASTM B150 630	Aluminium – Bronze ASTM B150 630
Handwheel	Cast Iron/Steel	Cast Iron/Steel
Disc	A516 Gr 70	A387 Gr 11
Gland Packing	Expanded Graphite	Expanded Graphite
Gasket	Expanded Graphite	Expanded Graphite

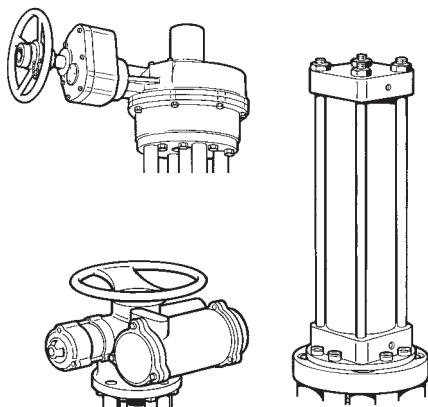


### Hydrostatic shell & seat leak test pressures

Press. Class	Material			
	ASTM A-216 WCB		ASTM A-217-WC6	
	Shell	Seat	Shell	Seat
600	2250 psi	1650 psi	2250 psi	1650 psi
600	156 bar	114 bar	156 bar	114 bar

### Dimensions

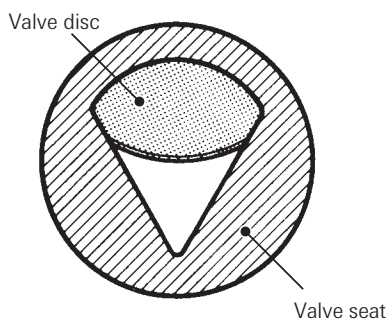
Size	A	C	M	N	P	Weight	Cv	K Factor	Product Numbers	
									Carbon Steel WCB	Alloy Steel WC6
10 in	31	48.38	9.66	20	56.81	1137 lb	7698	0.126	P52ES250P	P52JS250P
250 mm	787	1229	245	508	1443	516 kg				
12 in	33	57.17	11.49	22	67.20	1488 lb	11086	0.122	P52ES300P	P52JS300P
300 mm	838	1452	292	559	1707	675 kg				
14 in	35	60.79	12.64	23.75	71.30	1820 lb	13543	0.119	P52ES350P	P52JS350P
350 mm	889	1544	321	603	1811	826 kg				
16 in	39	68.39	14.47	27	79.96	2545 lb	18027	0.116	P52ES400P	P52JS400P
400 mm	991	1737	367.5	686	2031	1154 kg				
18 in	43	77.87	16.13	29.25	91.18	3280 lb	23040	0.114	P52ES450P	P52JS450P
450 mm	1092	1978	410	743	2316	1488 kg				
20 in	47	83.66	17.94	32	97.64	4250 lb	28884	0.111	P52ES500P	P52JS500P
500 mm	1194	2125	456	813	2480	1928 kg				



### Operators

Dewrance Parallel Slide Gate Valves can be equipped with gear operators – when handwheel rim torque exceeds 50 lbs. push and 50 lbs. pull. Bevel gear; bevel and spur gear; and spur gear operators are available.

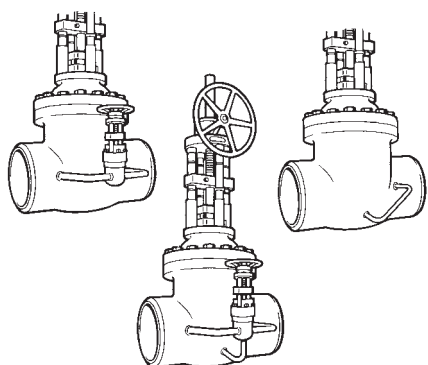
Power operators – All Dewrance Parallel Slide Gate Valves may be adapted for motor operators, pneumatic or hydraulic cylinders. The low torque requirements and the position seating of the Dewrance Valve provides economic power operator sizing.



View through outlet of Vee-port Seated Valve

### Parallel Slide Valves for Regulating Duty

If a valve is required for flow regulation duties Dewrance can supply a parallel slide valve fitted with a “vee-ported” seat, and special pattern discs. The upstream seat is drilled to provide a pressure equalizing feature and the valve becomes unidirectional.



### By-Pass Valves

Dewrance Parallel Slide Gate Valves can be fitted with By-Pass Valves when specified by the customer. Dewrance By-Pass Valves have a parallel slide gate design with a pressure seal bonnet, a forged body, butt-weld ends, can be motor operated and are in accordance with MSS-SP-45.

By-pass, equalizing by-pass, equalizing pipe and drain arrangements are available to suit customer design installation. Application requests should include the following additional information:

- Unidirectional or bidirectional flow
- Main valve installation position
- Piping variations or restriction unique to your design.

# Parallel Slide Gate Valves

## Materials of Construction

### ASTM specification Ferrous

Type	Forgings						Castings				Studs		
	Bonnets, Covers, Seats Discs						Valve Bodies				Covers, Glands		
Main use													
ASTM Spec (UNS)	A105	A182 F22	A276 420	A182 F347	BS970 316S31	A182 F91	A216 WCB	A217 WC6	A217 WC9	ASTM A743 GR.C12A	A193 GR.B7	A193 GR.B16	A193 GR.B6
Carbon %	0.75 max	0.15 max	0.15 min	0.08 max	0.07	0.08/0.12	0.30 max	0.20 max	0.05/0.18	0.12	0.37/0.49	0.36/0.47	0.15 max
Silicon %	1.5 max	0.5 max	1.0 max	1.0 max	1.0	0.2/0.5	0.6 max	0.6 max	0.6 max	0.2/0.5	0.15/0.35	0.15/0.35	1.0 max
Mang.%	-	0.3/0.6	1.0 max	2.0 max	2.0	0.3/0.6	1.0 max	0.5/0.8	0.40/0.70	0.3/0.6	0.65/1.1	0.45/0.70	1.0 max
Chrom.%	-	2.0/2.5	12.0/14.0	17.0/20.0	16.5/18.5	8.0/9.5	*0.5 max	1.0/1.5	2.0/2.75	8.0/9.5	0.75/1.2	0.80/1.15	11.5/13.5
Molybd.%	-	0.87/1.13	-	-	2.0/2.5	0.85/1.05	*0.20max	0.45/0.65	0.90/1.2	0.85/1.05	0.15/0.25	0.50/0.65	-
Nickel %	-	-	-	9.0/13.0	10.5/13.5	0.4 max	*0.5 max	*0.5 max	*0.50 max	0.4	-	-	-
Copper	-	-	-	-	-	-	*0.3 max	0.5 max	*0.50 max	-	-	-	-
Sulphur	0.08 max	0.04 max	0.03 max	0.03 max	0.03	0.01 max	0.045 max	0.045 max	0.045 max	0.018	0.04 max	0.040 max	0.03 max
Phosp. %	0.08 max	0.04 max	0.04 max	0.045max	0.045	0.02max	0.04 max	0.04 max	0.04 max	0.02	0.035 max	0.035 max	0.04 max
Niobium %	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	75/85	-	-	-	-	-	0.03	-	-	-	-	0.25/0.35	-
Almumin.%	2.0 max	-	-	-	-	-	-	-	-	-	-	0.015 max	-
Iron %	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL
U.T.S.ksi min	70	60		75	74	85	70	70	70	85	125	125	110
Yield ksi min	36	30		30	30	60	36	40	40	60	105	105	85

\* Residual elements total 1.0% max

### Ferrous

Type	Plate	Bar				Nuts		
	Covers	Stems		Pillars		Covers, Glands		
ASTM Spes (UNS)	ASTM A516 GR 70	A276 S43100	ASTM A565-XM32	A108 G10200	A193 GR.B7	A194 GR.2H	A194 GR.4	A194 GR.B8
Carbon %	0.18/0.31	0.2 max	0.08/0.15	0.18/0.23	0.37/0.49	0.40min	0.4/0.5	-0.08 max
Silicon %	0.13/0.45	1.0 max	0.35 max	-	0.15/0.35	0.4 max	0.15/0.35	1.0 max
Mang.%	0.6/1.2	1.0 max	0.5/0.9	0.3/0.6	0.65/1.1	1.0 max	0.7/0.9	2.0 max
Chrom.%	-	15/17	11/12.5	-	0.75/1.20	-	-	18.0/20.0
Molybd. %	-	-	1.5/2.0	-	0.15/0.25	-	0.20/0.30	-
Nickel %	-	1.25/2.50	2.0/3.0	-	-	-	-	8.0/10.5
Copper	-	-	-	-	-	-	-	-
Sulphur	0.035 max	0.03 max	0.025 max	0.05 max	0.04 max	0.05 max	0.04 max	0.03 max
Phosp. %	0.035 max	0.04 max	0.025 max	0.04 max	0.35 max	0.04 max	0.035 max	0.045 max
Niobium %	-	-	-	-	-	-	-	-
Vanadium	-	-	0.25/0.40	-	-	-	-	-
Almumin.%	-	-	-	-	-	-	-	-
Iron %	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL
U.T.S.ksi min	55		115		100			
Yield ksi min	30		75		75			

### Non Ferrous

Type	Non Ferrous
Main use	Sleeve Gland
ASTM Spec (UNS)	B150 C63000
Almumin.%	9.0-11.0
Silicon %	0.25 max
Mang.%	1.5 max
Tin. %	0.2 max
Zinc %	0.3 max
Nickel %	4.0-5.5
Copper	BAL
Iron %	2.0-4.0
Phosp.%	-
Niobium %	-
Vanadium	-
Lead %	-
U.T.S.ksi min	94
Yield KIS MIN	46

### Pressure class

51/52	–	600 Class
67	–	1000 Class
73	–	1690 Class
8A	–	1715 Class
83	–	2260 Class
91	–	2500 Class
95	–	2850 Class
X7	–	4500 Class

### End Connection

Even number	–	Flanged
Odd number	–	Butt weld

### Body material

D	ASTM A105
E	ASTM A216 Gr WCB
J	ASTM A217 Gr WC6
K	ASTM A182 Gr F22
L	ASTM A217 Gr WC9
R	ASTM A217 Gr C12A

### Valve type

A	Automatic bypass valves
B	Bled steam check valve
C	
E	Leak off valve
F	Tilting disc check valve/Swing check valve
G	
K	
L	Automatic non-return valves
M	Stop valves
N	Screw down non-return valves
P	Parallel slide valves
R	Reheater Isolators
T	
U	Special products
W	Feed heater isolators
Y	Feed water heater divertor
Z	Miscellaneous

### Valve operation on speciality

A	Bevel gear op. from below
B	Bevel gear op. from above
C	Chain Wheel
D	Hydraulic actuator
E	Direct mtd. Limitorque
F	Sleeve coupling
G	Bevel gear local operation
H	Local handwheel operation
L	Locking device
M	Adaptor plate
N	Pneumatic actuator
P	Spur gear op. from below
Q	Spur gear op. from above
R	Direct mounted Rotork
T	Universal joint
U	Undrilled or block ends with handwheel
V	Special
W	Power assisted
Y	Direct mtd. Auma actuator
Z	No external operator

**P 5 1 E H 200 P F D A**

### Nominal end size (mm)

### Minor design change

N	Non return
T/P	Standard flow
S/R	Venturi

### Ancillary valve arrangement

B	One by-pass
C	One equalizing by-pass
D	One by-pass & one equalizing by-pass
F	No by-pass
G	Equalizing pipe
H	Vee port seat
J	One by-pass & one by-pass drain valve
K	One drain valve
L	One equalizing pipe & one drain valve
M	Vee port seat & equalizing pipe

### Minor product variation

### By-pass operation

A	Bevels op. from below
B	Bevels op. from above
C	Chain wheel
D	No by-pass
E	Direct mtd. Limitorque actuator
F	Sleeve coupling
G	Local op. through bevel gear
H	Local handwheel
L	Locking device
N	
P	Spur gear op. from below
Q	Spur gear op. from above
R	Direct mtd. Rotork actuator
Y	Direct mtd. Auma actuator