

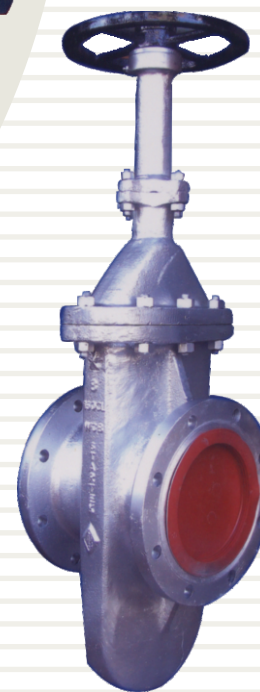
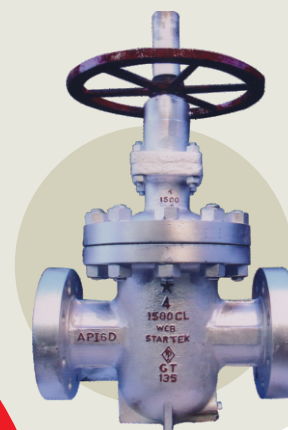
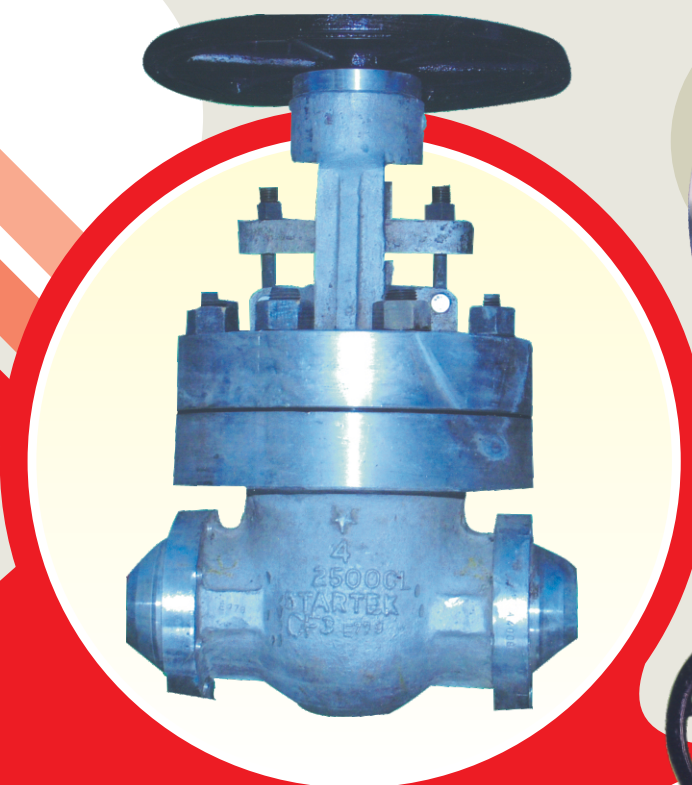
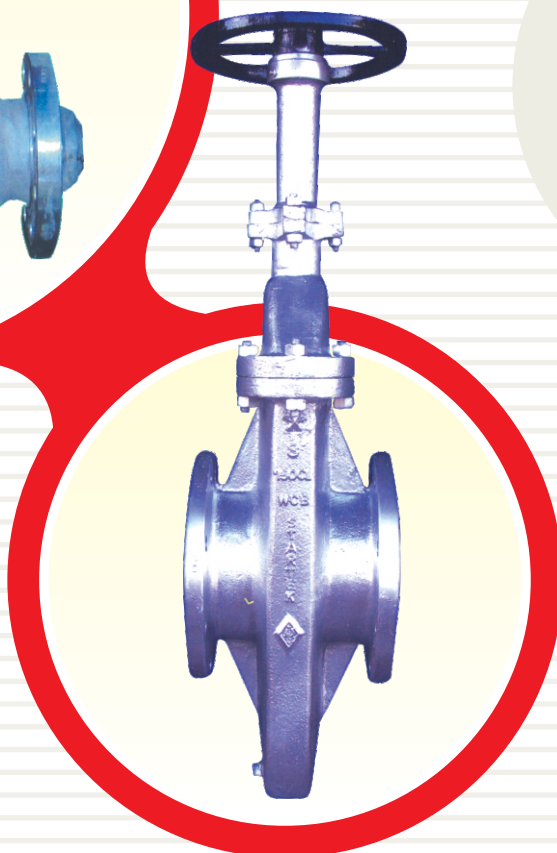
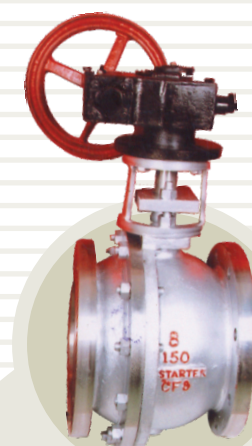
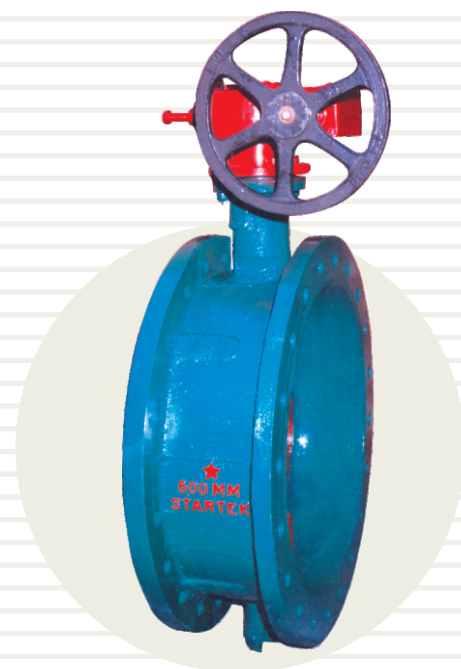


STARTEK

CATALOGUE CUM PROFILE



6A-1033
6D-0601
600-0026



Star Engineers

B-21, Banner Estate, Opp. Soma Textiles,
Rakhial, Ahmedabad-380 023.
Phone : 22730083 Tele Fax : 079-22772371
E-mail : info@starengineers.com
starteks@rediffmail.com

Customer :



Star Engineers



STARTEK

STAR ENGINEERS commenced its operation facility in 1993 having its registered office and works at B-21, Banner Estate, Opp. Soma Textiles, Rakhial, Ahmedabad-380 023. Gujarat - India.

The company is involved in design, manufacturing and marketing of "STARTEK" brand industrial valves for application in Oil and gas, Petrochemicals, Power, Fertilizer plants, Chemical and Process industries.

We are an ISO 9001 2000 certified company and also authorised to use the monogram of American Petroleum Institute - USA for API 6A, API 6D and API 600 valves. Our product range includes, API 6A, 6D, 600 Valve, Gate valve, knife Edge Gate Valve, Check Valve (Swing & Lift type) and Dual Plate & Wafer Type Check Valve, Globe Valve, Ball Valve (3 way & 2 way), Butterfly, Plug Valves and Strainers, etc.

The company is committed to product innovation, engineering excellence, precision manufacturing, 100% quality testing and hand-on technical assistance to the customers. All this and more comes naturally by our skilled and mature manpower at every level, which alone has brought the company to today's threshold. Direct control of all manufacturing processes ensures additional assurance to the customer in respect of higher performance and excellent quality.

Equipped with the latest state of art in house machinery, testing facility, we manufacture valves as per the National and International standards and as per the requirement of client within a couple of days on request

Our aim to provide services to the satisfaction of customer through quality excellence, low Cost, within a specified delivery schedule and efficient after sales service.

If you are interested in our products, Please Email to us to inquire.
info@starengineers.com
starteks@rediffmail.com

Sincerely Yours

Chairman



STARTEK



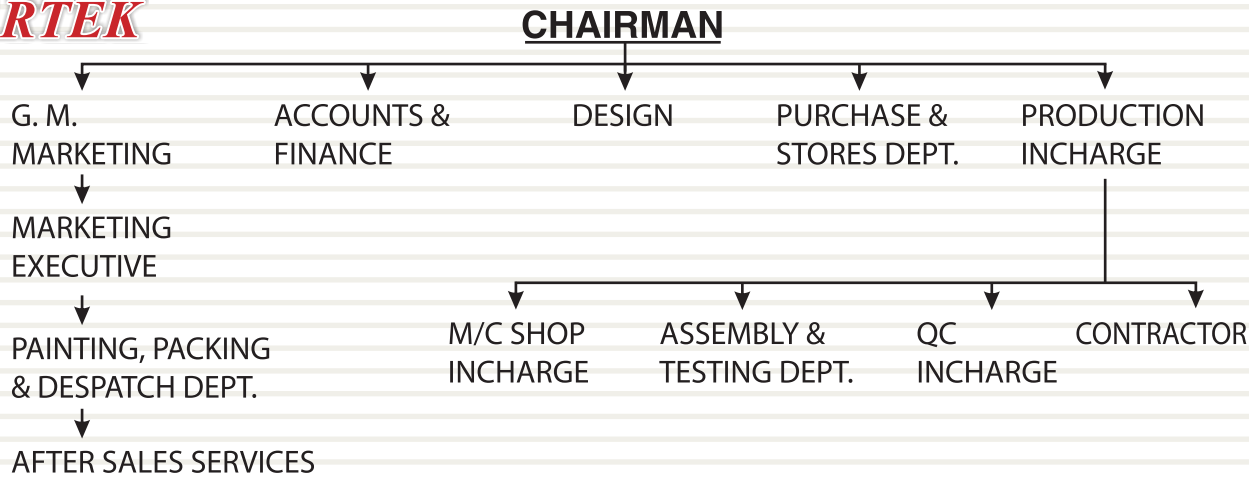
Name of the company	: STAR ENGINEERS
Years of establishment	: 1993
Registered office & works	: B-21, Banner Estate, Opp. Soma Textile, Rakhial, Ahmedabad - 380 023.
Telephone no.	: 91-79-22730083
Fax no.	: 91-79-22772371
Email	: info@starengineers.com starteks@rediffmail.com
Web site	: www.starengineers.com
Activites	: Manufacturer of "STARTEK" brand industrial valves.
Type of firm	: Partnership
ISO certificate no.	: ISO 9001 2000 (QI5217/07)
API 6A license no.	: 6A-1033
API 6D license no.	: 6D-0601
API 600 license no.	: 600-0026
NSIC registration no.	: NSIC/GP/RS/PMT/GUJ/S-395/2006-07/A-4
SSI registration no.	: DIC/AHD/SSI/15653
Category of Enterprise	: MICRO
Entrepreneurs Memorandum no.	: 24-007-11-02270
ECC no.	: AATFS2673JXM001
PAN no.	: AATFS2673J
CST/TIN no.	: 24572200940
GST/TIN no.	: 24072200940
Bankers	: Bank of Baroda, Dariyapur Branch, Ahmedabad. HDFC Bank, Maninagar Branch, Ahmedabad.
Office area	: 100 Sq. Meters
Factory area	: 750 Sq. Meters
Electric load	: 80 H.P.
Dealer network	: Baroda, Mumbai, Chennai, Bangalore, Hyderabad, Delhi, Kolkata Etc.

PRODUCT RANGE					
“STARTEK” BRAND					
API MONOGRAMMED VALVES.					
Sr. No.	Item	Mfg. & Testing Standards			
1	Valves, Tees & Crosses, Ring Joint, Gaskets, Adjustable Chokes, Flanged Connectors, Bull Plug.	API Spec. 6A/ ISO 10423			
2	Conduit Gate Valve, Ball Valve, Swing Check Valve & Plug Valves	API Spec. 6D/ ISO 14313			
3	Gate Valve, Bolted Bonnet, Flanged end / Buttweld ends.	API Spec. 600/ API 598			
INDUSTRIAL VALVES.					
Sr. No.	Item	M. O. C.	Size Inch)	Pr. Rating	Mfg. & Testing Standards
4	Gate Valve, Flanged ends / Buttweld ends.	ASTM A 216 GR WCB, ASTM A 351 GR CF8, CF8M, CF3, CF3M & C.I.	1” - 36”	150#, 300#, 400#, 600#, 900#, 1500# & 2500#	API 600 / API 598
5	Gate Valve, Socket Weld ends/ Buttweld ends.	ASTM A 105, ASTM A 182 F304, 304L, 316, 316L, F11,F22, ASTM A 352 GR.LF2	½” - 2”	800#, 1500# & 2500#	API 602 / API 598
6	Knife Edge Gate Valve	ASTM A 216 GR WCB, ASTM A 351 GR CF8, CF8M, CF3, CF3M & C.I.	2” - 24”	150#	As per mfg. Std.
7	Globe Valve, Flanged ends / Buttweld ends	ASTM A 216 GR WCB,ASTM A 217 GR WC6, WC9, C5, C12, ASTM A351 GR. CF8, CF8M,CF3, CF3M, ASTM A 352 GR. LCB & C.I.	1” - 24”	150#, 300#, 600#, 900#, 1500#, 2500#	BS 1873 / BS 5146 / API 598
8	Globe Valve ND 40	— DO —	1” - 24”	ND 40	BS 1873 / BS 5146 / API 598
9	Globe Valve Socket weld ends/ Buttweld ends	ASTM A 105, ASTM A 182 F304, 304L, 316, 316L, F11, F22, ASTM A 352 GR.LF2	½” - 2”	800#, 1500# & 2500#	BS 5352/ BS 6755 / API 598
10	Swing Check Valve, Flanged ends / Buttweld ends	ASTM A 216 GR WCB, ASTM A 217 GR WC6, WC9, C5, C12, ASTM A 351 GR. CF8, CF8M, CF3, CF3M, ASTM A 352 GR. LCB	2” - 36”	150#, 300#, 400#, 600#, 900#, 1500# & 2500#	BS 5146 / API 598 API 6D
11	Lift Check Valve, Socket Weld ends / Buttweld ends	ASTM A 105, ASTM A182 F304, 304, 316, 316L F11, F22, ASTM A 352 GR. LF2	½” - 2”	800#, 1500#, 400# 600#, 900#, 1500# & 2500#	BS 5352 / BS 6755 API 598
12	Check Valve Wafer	ASTM A 216 GR WCB,ASTM A 217 GR WC6, WC9, C5, C12, ASTM A 351 GR. CF8, CF8M, CF3, CF3M, ASTM A352 GR. LCB	2” - 36”	150# & 300#	API 6D / BS 1868 / BS 6755 / API 598
13	Ball Valve 2 Way & 3 Way Flanged ends	ASTM A 216 GR WCB,ASTM A 217 GR WC6, WC9, C5, C12, ASTM A 351 GR. CF8, CF8M, CF3, CF3M, ASTM A 352 GR. LCB	½” - 24”	150#, 300#, 400#, 600#, 900# & 1500#	BS 5351 / API 6D / BS5146
14	Ball Valve Screwed ends / Socket Weld ends	ASTM A 105, ASTM A 351 GR CF8, CF8M, CF3, CF3M,	½” - 2”	150#, 300#, 600#, 900#	BS 5351 / API 6D / BS 5146
15	Butterfly Valve	ASTM A 216 GR. WCB / ASTM A 351 GR. CF8, CF8M & C.I.	1½” - 40”	150#	API 609 / BS 5155
16	Flush Bottom Valve	ASTM A 351 GR. CF8, CF8M	2” - 12”	150#, 300#	As per mfg. Std.
17	Strainers, Y, T & Pot Type	ASTM A 216 GR. WCB / ASTM A 351 GR. CF8, CF8M & C.I.	1” - 24”	150#, 300#	As per mfg. Std.
18	Needle Valve	ASTM A 351 GR. CF8, CF8M	1/8” - 2”	Upto 10000 PSI	As per mfg. Std.
19	Pressure Relief Valve Flanged ends	ASTM A 216 GR WCB / C. I.	1” x 2” - 10” x 12”	150#	As per mfg. Std.

3



STARTEK



VALUED CUSTOMERS

- 1) OIL & NATURAL GAS CORPORATION LTD.
- 2) INDIAN OIL CORPORATION LTD.
- 3) DEPARTMENT OF ATOMIC ENERGY.
- 4) BHABHA ATOMIC RESEARCH CENTRE.
- 5) GUJARAT STATE PETRONET LTD.
- 6) GSPC GAS CO. LTD.
- 7) DNP LTD, ASSAM GAS CO.
- 8) STEEL AUTHORITY OF INDIA LTD.
- 9) GAIL (INDIA) LTD.
- 10) INDIAN FARMERS FERTILIZERS CO-OP. LTD.
- 11) BHARAT HEAVY PLATE & VESSELS LTD.
- 12) GUJARAT STATE ELECTRICITY BOARD.
- 13) NEYVELI LIGNITE CORPORATION LTD.
- 14) NOVAPETROCHEMICALS LTD.
- 15) MAHENDRA PETRO CHEMICALS LTD.

REGISTERED AS AN APPROVED VENDOR

- 1) ONGC LTD.
- 2) IOCL (PIPELINES & REFINERIES).
- 3) IFFCO LTD.
- 4) BHARAT HEAVY PLATE & VESSELS LTD.
- 5) NOVAPETROCHEMICALS LTD.
- 6) MAHENDRA PETROCHEMICALS LTD.

INSPECTION AGENCIES UNDER WHOSE INSPECTION WE HAVE CARRIED OUT JOB.

- 1) TATAPROJECTS LTD.
- 2) MOTT MACDONALD PVT. LTD.
- 3) DET NORSKE VERITAS. (DNV)
- 4) GERMANISCHER LLOYD INDUSTRIAL SERVICES.
- 5) PRS ENGINEERING & CONSULTANTS.
- 6) INTERNATIONAL CERTIFICATIONS SERVICES.
- 7) BVIS
- 8) SGS. India Pvt. Ltd.
- 9) Phistream Consulting Ltd.
- 10) PDIL
- 11) TUU - NORD

6A-1033
6D-0601
600-0026



CERTIFICATIONS

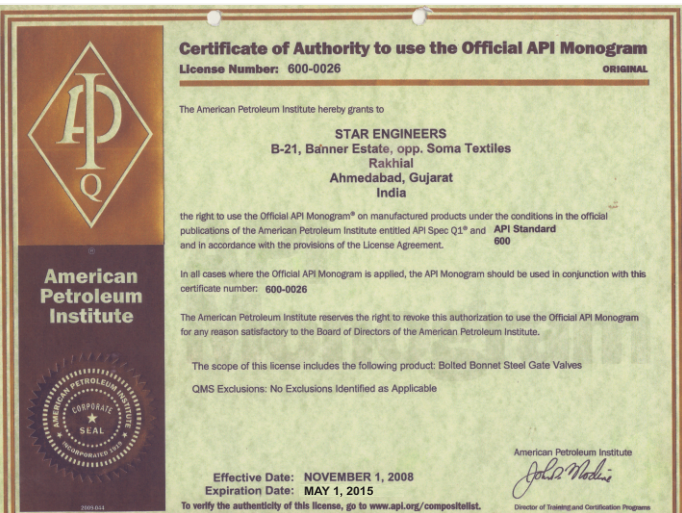


STARTEK

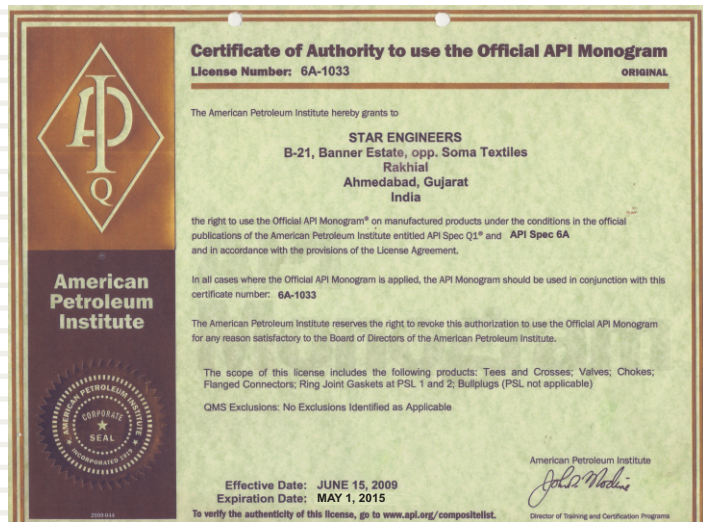
CERTIFICATIONS



ISO 9001 : 2000 Certificate



API - 600 Monogram License



API - 6A Monogram License



API - 6D Monogram License



STARTEK

FORGED / CAST COMPACT BALL VALVES

MODEL NO. : SE-01, SE-02, SE-03, SE-04



BALL VALVES

3 PIECE, 1500/2500# TRUNNION MOUNTED

MODEL NO. : SE-01

2 PIECE, 800#

MODEL NO. : SE-02

2 PIECE, 800# NIPPLE WELDED

MODEL NO. : SE-03

3 PIECE, 150# INVESTMENT CASTING

MODEL NO. : SE-04



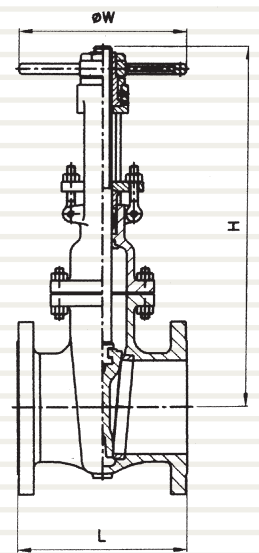
CAST STEEL BOLTED BONNET GATE VALVE

MODEL NO. : SE-05



Features

- STARTEK Cast Steel Gate Valves have been designed to meet the requirements of API 600 - ISO 104 34 / BS 414/API 603/API 6D-ISO14313/ASMEB 16.34
- Face to Face and End to End dimensions conform to ASME B16.10/ ISO 5752/ BS 2080/ DIN
- End flange dimensions conform to ASME B16.5/ ISO 7005-1 /API 605/ BS 3293/ DIN
- Butt weld end dimensions conform to ASME B16.25
- The stem nut design allows for the removal of the hand-wheel while keeping the Stem and Gate in a fixed position.
- Anti-frictional Ball bearings are provided in higher sizes and classes.
- The strength of Stem to Gate connection is stronger than the strength of the Stem at the root of the operating thread
- Outside screw and yoke construction
- All the valves provided with backseat arrangement Bi-directional shut-off
- The gland is of self aligning two piece type Deep stuffing box
- Body ports are streamlined, permitting unobstructed flow, reduces turbulence, results in lower pressure drop and lower erosion
- The Seat-rings are cylindrical bottom seated type having ample cross section for strength are provided with welded in and threaded Seat-rings will be supplied on request. In case of SS valves the Seat-rings are integral to Body
- The Body to Bonnet joint is flat in ISO PN 20 / ASME 150# valves, a male and female joint is used in PN 50 / 300# & PN 110/ 600# and ring joint is used in higher classes
- Valves meet the requirements of fugitive emission levels Shell category B as per MESC SPE 77/312



Options

- Solid, flexible, split wedge, double disc and parallel Slide Gate configurations available
- For low temperature and cryogenic services (cold box and non-cold box applications) extended bonnet as per BS 6364 available
- Locking arrangement
- Gear,Electrical, Hydraulic or Pneumatic actuator available

Materials

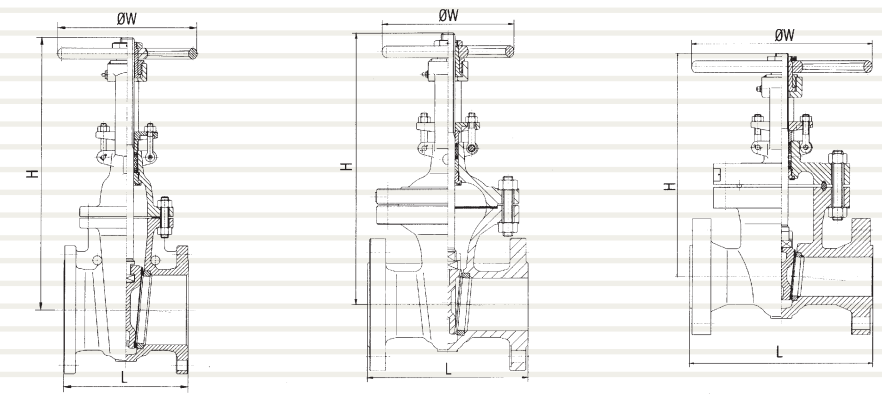
Part Name	Material Option
Body	ASTM A 216 WCB / A 217 WC 6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Bonnet	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Wedge	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Stem	ASTM A 276 410 / A 276 304 / A 276 304L / A 276 316
Seat Rings	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Back Seat Bushing	ASTM A 276 410 / A 276 304L / A 276 316L
Gland	ASTM A 276 410 / A 276 304L / A 276 316L
Gland Flange	Carbon Steel / Stainless Steel
Stem Nut	ASM A 439 Gr. D2 / Al. Bronz
Lock Nut	Carbon Steel / SS 304
Gland Packing	Graphite Asbestos / Graphoil / PTFE
Bonnet Gasket	Corrugated Soft Iron / Corrugated SS / Spiral Would SS 304 with Asbestos or Graphoil / Octagonal Ring
Gland Eye - Bolt & Nut	Carbon Steel / Stainless Steel
Cross Bolts & Nuts	Carbon Steel / Stainless Steel
Hand Wheel	Carbon Steel
Hand Wheel Nut	Carbon Steel
Grease Nipple	Carbon Steel
Grub Screw	Carbon Steel
Studs / Bolts	ASTM A 193 B7 / A 193 B7M / A 193 BBM / A320 L7
Nut	ASTM A 194 2H / A 194 8 / A 194 8M / A 194 4 / 7

* Valves are available in Duplex & Super Duplex Stainless Steel and Nickel Aluminium Bronze. Please indicate Trim required and ask for individual technical data sheets provided separately for these special materials.
@ CS & Alloy Steel Wedges and Seat Rings will be overlayed with 13% CR. or STELLITE 6 as per customer specifications.



CAST STEEL BOLTED BONNET GATE VALVE

MODEL NO. : SE-05



Dimensions

ISO PN 20 / ASME 150 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050
L-RF	178	191	203	228	254	267	292	330	355	381	406	432	457	508	559	609	609	660	711	812	860
**L1-BW	216	241	282	304	381	403	419	457	501	571	609	660	711	812	863	914	914	965	1016*	1066*	1143
H (approx)	425	435	535	600	705	800	1010	1250	1385	1575	1825	1950	2080	2425	2750	2825	3175	3473	3600	4100	4500
ØW	200	200	250	250	280	300	350	450	500	350*	350*	350*	400*	400*	450*	450*	500*	500*	500*	500*	550*
Wt.(approx)kg	22	29	37	56	78	84	138	210	310	450	565	740	927	1125	1425	1550	1950	2200	3050	3265	4250

ISO PN 50 / ASME 300 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750
**L-RF,L1-BW	216	241	282	305	381	403	419	457	502	762	838	914	990	1143	1244	1346	1397
H (approx)	430	475	535	605	715	845	1075	1260	1425	1585	1845	1995	2175	2650	2850	3050	3270
ØW	200	200	250	300	300	350	450	500	500	350*	400*	450*	450*	500*	500*	500*	550*
Wt.(approx)kg	28	40	53	80	125	152	245	360	532	725	950	1350	1648	2350	2900	3400	4100

ISO PN 110 / ASME 600 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
**L-RF,L1-BW	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397
H (approx)	440	500	545	720	730	850	1200	1390	1580	655	1905	2010	2275	2810
ØW	250	250	300	350	400	500	600	600	400*	450*	450*	500*	500*	550*
Wt.(approx)kg	38	61	68	123	178	225	430	730	850	1300	1750	2250	2450	4100

ISO PN 150 / ASME 900 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450	500
**L-RF,L1-BW	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321
H (approx)	445	510	595	750	765	865	1225	1450	1625	1680	1925	2025	2310
ØW	300	300	300	400	450	300*	350*	400*	400	450	500*	500*	550*
Wt.(approx)kg	85	105	125	180	260	310	525	975	1450	1900	2555	3275	3900

ISO PN 260 / ASME 1500 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450
**L-RF,L1-BW	368	419	470	546	673	705	832	991	1130	1257	1384	1537
H (approx)	475	525	600	775	785	925	1250	1525	1725	1750	1950	2125
ØW	300	300	300*	300*	300*	350*	350*	400*	400*	450*	550*	550*
Wt.(approx)kg	110	130	145	220	320	403	710	1350	2300	3100	3575	4585

ISO PN 420 / ASME 2500 Class (Pressure Seal Design)

Size DN	50	65	80	100	125	150	200	250	300
**L-RF,L1-BW	451	508	598	673	794	914	1022	1270	1422
H (approx)	600	695	740	890	970	1135	1350	1680	1750
ØW	400	460	300*	350*	350*	350*	400*	450*	450*
Wt.(approx)kg	110	130	140	225	295	495	825	1480	2400

* Gear Operation suggested. Dimensions on request.





THROUGH CONDUIT - API 6D GATE VALVE



STARTEK

MODEL NO. : SE-06

Features

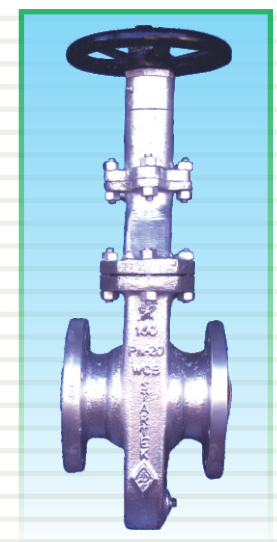
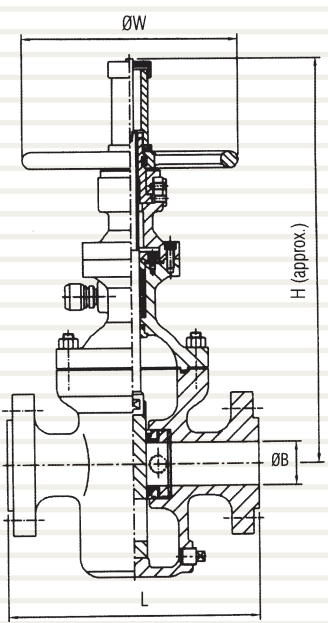
- STARTEK Valves have been designed to meet the requirements of API-6D ISO 14313 / ASME B16.34
- Face to Face and End to End dimensions conform to ASME B16.10 / ISO 5752 / BS 2080 / DIN
- End flange dimensions conform to ASME B16.5/ISO 7005-1 / API 605/BS 3293/DIN
- Butt weld end dimensions conform to ASME B16.25
- Slab type gate to avoid jamming associated with wedge gate
- Pressure energized floating seat rings with PTFE inserts
- Weather proof operating system
- Through conduit piggable passage
- Outside screw and yoke construction
- All the valves provided with backseat arrangement
- Body ports are streamlined, permitting unobstructed flow, reduces turbulence, results in lower pressure drop and lower erosion
- The Body to Bonnet joint is flat in ISO PN 20 / ASME 150# valves, a male and female joint is used in PN 50/300# & PN 110/600# and ring joint is used in higher classes
- Specially designed die formed graphite packing, controlled clearance between stem,

Options

- For low temperature and cryogenic services (cold box and non-cold box applications) extended bonnet as per BS 6364 available
- Locking arrangement
- Gear, Electrical, Hydraulic or Pneumatic actuator available

Materials

Part Name	Material Option
Body	ASTM A 216 WCB / A 217 WC6 / A217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A352 / LCB
Bonnet	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Gate	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB/ A 217 CA15
Yoke	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A351 CF8 / A351 CF8 M / A 351 CF3 / A 351 CF3M / A 352 LCB
Stem	ASTM A 276 410 / A 276 304 / A 276 304L / A 276 316L
Seat Rings'	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB / A 217 CA15
Seat Insert	PTFE / VITON
'O' Ring	VITON
Back Seat Bushing	ASTM A 276 410 / A 276 304 / A 276 304L / A 276 316L Spring 304, 316
Gland Nut	ASTM A 276 410 / A 276 304 / A 276 304L / A 276 316L
Stem Nut	ASTM A 439 Gr.D2/Al. Bronze
Lock Nut	Carbon Steel / SS 304
Gland Packing	Chevron Ring / Graphoil / PTFE
Bonnet Gasket	SS 304/Graphoil
Gland Eye - Bolt & Nut	Carbon Steel / Stainless Steel
Cross Bolts & Nuts	Carbon Steel / Stainless Steel
Hand Wheel	Carbon Steel / M.I / S.
Stem Enclosure	Carbon Steel
Hand Wheel Nut	Carbon Steel
Stem Indicator	Carbon Steel
Drain Plug	Stainless Steel
Anti-friction Bearing	Standard
Grease Nipple	Stainless Steel
Grub Screw	Carbon Steel
Studs/Bolts	ASTM A 193 B7 / A 193 B7M / A 193 BBM / A 320 L7
Nut	ASTM A 194 2H / A 194 8 / A 194 8M / A 194 4 / 7



* Valves are available in Duplex & Super Duplex Stainless Steel and Nickel Aluminium Bronze. Please indicate Trim required and ask for individual technical data sheets provided separately for these special materials.
@ CS & Alloy Steel Gate and Seat Rings will be ENP coated unless specified otherwise overlaid with 13% CR. or STELLITE 6 as per customer specifications.



THROUGH CONDUIT - API 6A GATE VALVE



MODEL NO. : SE-07

Features

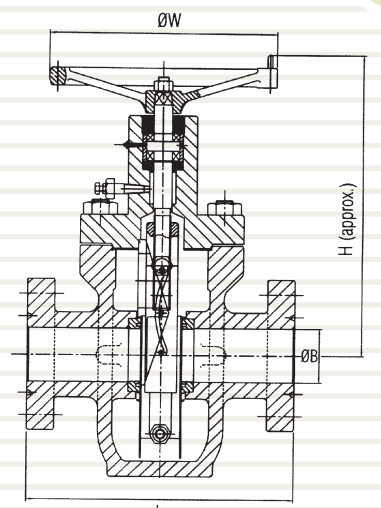
- STARTEK Cast Steel Through conduit Gate Valves have been designed to meet the requirements of API 6A
- Face to Face and End to End dimensions conform to API 6A
- End flange dimensions conform to API 6A
- Butt weld end dimensions conform to API 6A
- Screwed end dimensions conform to API 6A
- Collapsing movement of split gate away from seat during opening eliminates erosion and abrasion of seats and gate
- Weather proof operating system
- Easy maintenance with valve in-line
- Through conduit piggable passage
- Anti-frictional Ball bearings
- Inside screw and yoke construction
- Bi-directional shut-off
- Sealant injector fittings
- Body ports are streamlined, permitting unobstructed flow, reduces turbulence, results in lower pressure drop and lower erosion
- Available in all popular bore sizes and PSL 1 through 4
- Valves meet the requirements of fugitive emission levels Shell category B as per MESC SPE 77/312

Options

- Slab gate with floating seats
- Position indicator
- Hydraulic or Pneumatic actuator available

Materials

Part Name	Material Option
Body	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB / A 487 4A
Bonnet	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB / A 487 4A
Gate Guide Skirt	SS304/SS316
Gate®	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB / A 487 4A
Spring	SS 304
'O' Ring	VITON
Seat Rings	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB / A 487 4A
Seat	PTFE
Spindle	ASTM A 479 410 / A 479 304 / A 479 316 / A 479 304L / A 479 316L
Stem Nut	ASTM A 439 Gr.D2/Al. Bronze
Bonnet Gasket	Low Carbon Steel / Stainless Steel
Cover Ring	VITON/Nitrile
Packing Injector	SS 410 / SS 304
Gland Packing	Chevron Ring / Graphoil / PTFE
Lantern Ring	SS 410 / SS 316
Gland Ring	Carbon Steel / Stainless Steel
Gland Nut	Carbon Steel / Stainless Steel
Bonnet Cap	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB / A 487 4A
Bearing	Standard
Pin	SS 410
Drive Screw	Carbon Steel
Hand Wheel	Carbon Steel
Locking Pin	Carbon Steel
Studs/Bolts	ASTM A193 B7 / A 193 B7M / A193 BBM / A 320 L7
Nutx	ASTM A 194 2H/ A194 8/A 194 8M/A 194 4/7



* Valves are available in Duplex & Super Duplex Stainless Steel and Nickel Aluminium Bronze. Please indicate Trim required and ask for individual technical data sheets provided separately for these special materials.
@ CS & Alloy Steel Gate and Seat Rings will be ENP coated unless specified otherwise overlaid with 13% CR. or STELLITE 6 as per customer specifications.

GATE VALVE

GATE VALVE



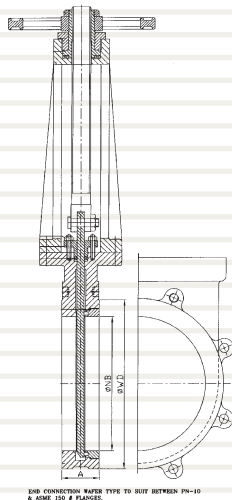
KNIFE GATE VALVE (Manual Operated)

MODEL NO. : SE-08



Features

- ◆ **STARTEK** Knife Gate Valve (Manual Operated)
- ◆ Nominal pressure : 0.6MPa, 1.0MPa, 1.6MPa, 2.5MPa, 150Lb
- ◆ Nominal diameter : DN50~400mm NPS 2"-16"
- ◆ Suitable temperature :-38~+650°C
(Rang of temperature subject to the material of sealing and property of medium)
- ◆ Connecting flange : ANSI B16.5, GB/T9113, JB/T79, HG, SH, JIS, DIN, NF, BS
- ◆ Main materials : WCB, ZG 1Cr 18Ni9Ti, ZG1Cr 18Ni12Mo2Ti, CF8, CF8M, CF3, CF3M
- ◆ Seal type : Stainless steel hard seal : Teflon soft seal
- ◆ Leakage : Stainless steel hard seal : Grade D (Liquid 0.1XDN mm³/S)
- ◆ Teflon soft seal : Grade A (Zero Leakage) Accessories : Flange



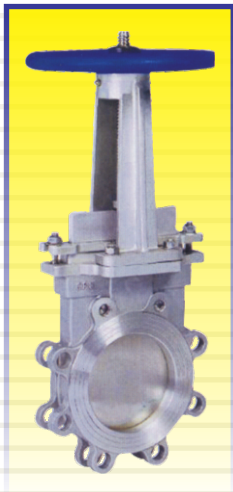
Dimensions

ISO PN 20 / ASME 150 Class

Size DN	50	80	100	150	200	250	300	350	400
A	41	48	48	57	58	65	75	79	91
ØWD	107	142	162	218	273	328	378	438	489

Materials

Part Name	Material Option
Body	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / CAST IRON
Yoke	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / CAST IRON
Yoke Sleeve	SG IRON
Gate	AISI 304 / AISI 316
Spindle	AISI 304 / AISI 316
Gland	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / CAST IRON
Seat Ring	AISI 304 / AISI 316
Yoke Bush	Carbon Steel
Hand Wheel	M. I.
Hand Wheel Nut	Carbon Steel
Gasket	Asbestos / PTFE
Stud & Nuts	Carbon Steel



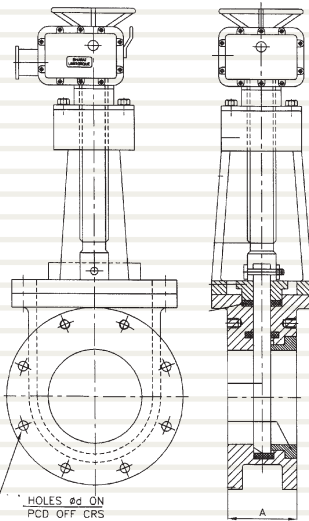
KNIFE GATE VALVE (Electrical Operated)

MODEL NO. : SE-09



Features

- ◆ **STARTEK** Knife Gate Valve (Electrical Operated)
- ◆ Nominal pressure : 0.6MPa, 1.0MPa, 2.5MPa, 150Lb
- ◆ Nominal diameter : DN50~1200mm NPS 2"-20"
- ◆ Suitable temperature :-38~+650°C
(Rang of temperature subject to the material of sealing and property of medium)
- ◆ Connecting flange : ANSI B 16.5, GB/T9113, JB/T79, HG, SH, JIS, DIN, NF, BS
- ◆ Main materials : WCB, ZG1Cr18Ni9Ti, ZG1 Cr18Ni12Mo2Ti, CF8, CF8M, CF3, CF3M
- ◆ Seal type : Stainless steel hard seal : Teflon soft seal
- ◆ Leakage : Stainless steel hard seal : Garde D (Liquid 0.1XDN mm³/S)
- ◆ Teflon soft seal : Grade A (Zero Leakage) Accessories : Flange



Dimensions

ISO PN 20 / ASME 150 Class

Size DN	50	80	100	125	150	200	250	300	350	400	450	500
A	48	51	51	57	57	70	70	76	79	91	91	114
ØWH	203	203	203	254	254	305	406	406	508	508	600	600
P	120.5	152.4	190.5	216	241.5	298.5	362	432	476	539.5	578	635
ØD	19	19	19	22	22	22	25.4	25.4	28.6	28.6	32	32
N	4	4	8	8	8	8	12	12	12	16	16	20

Materials

Part Name	Material Option
Body	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / CAST IRON
Yoke	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / CAST IRON
Elect. Actu.	MFG. STD.
Yoke Sleeve	SG IRON
Gate	AISI 304 / AISI 316
Spindle	AISI 304 / AISI 316
Gland	ASTM A 216 WCB / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / CAST IRON
Gland Packing	GRAPHITED ASBESTOS/PTFE
Seat Ring	AISI 304 / AISI 316





CAST STEEL BOLTED BONNET GLOBE VALVE

MODEL NO. : SE-10



Features

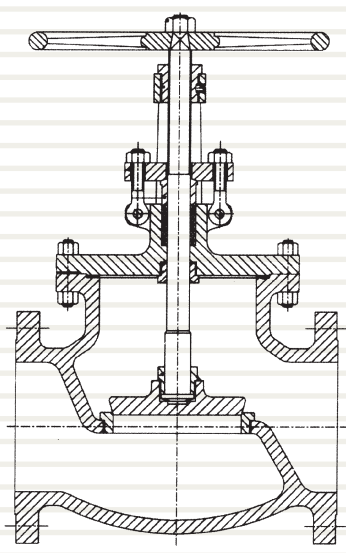
- STARTEK Cast Steel Globe Valves have been designed to meet the requirements BS1873/ASME B16.34
- Face to Face and End to End dimensions conform to ASME B16.10 / ISO 5752 / BS 2080 / DIN
- End flange dimensions conform to ASME B16.5 / ISO 7005-1 / API 605 / BS 3293 / DIN
- Butt weld end dimensions conform to ASME B16.25
- Anti-frictional Ball bearings are provided in higher sizes and classes.
- Outside screw and yoke construction
- All the valves provided with backseat arrangement
- The gland is of self aligning two piece type
- Deep stuffing box
- The Seat-rings are shoulder seated type having ample cross section for strength are provided with welded in and threaded Seat-rings will be supplied on request. In case of SS valves the Seat-rings are integral to Body
- The Body to Bonnet joint is a male & female in ISO PN 20, PN 50 & PN110 / ASME 150#, 300# & 600# valves and ring joint is used in higher classes
- Valves meet the requirements of fugitive emission levels Shell category B as per MESC SPE 77/312

Options

- Angle and Y type design available
- For low temperature and cryogenic services (cold box and non-cold box applications) extended bonnet as per BS 6364 available
- Locking arrangement
- Gear, Electrical, Hydraulic or Pneumatic actuator available
- Regulating, guided and soft seated plugs available
- Bellow Seal for critical service and hazardous media

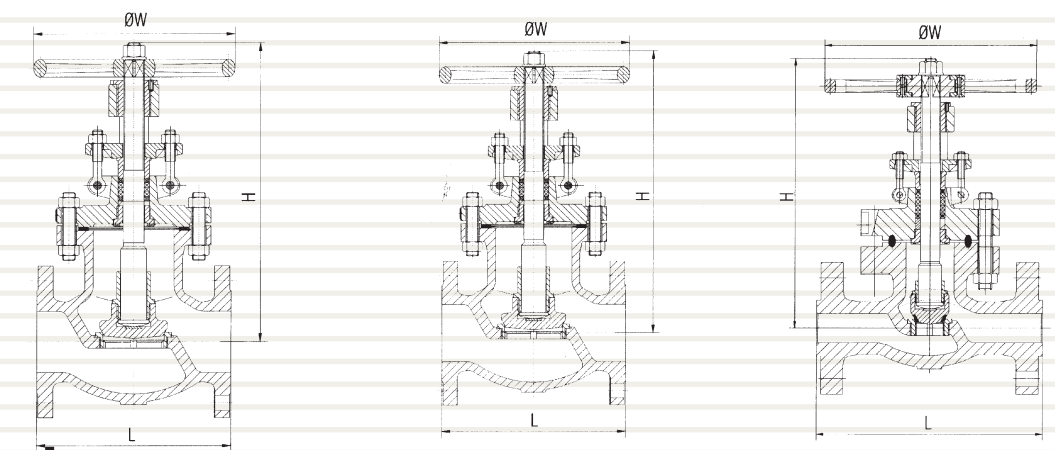
Materials

Part Name	Material Option
Body	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3/ A351 CF3M/A352LCB
Bonnet	ASTMA216 WCB / A217 WC6 / A217 WC9 / A217 C5 / A217 C12 / A351 CF8 / A351 CF8M / A351 CF3/ A351 CF3M/A352LCB
Disc *	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3/ A351 CF3M/A352LCB
Disc Nut	ASTM A 276 410 / A 276 304 / A 276 304L / A 276 316L
Stem	ASTM A 276 410 / A 276 304 / A 276 304L / A 276 316L
Seat Rings*	ASTMA216 WCB / A217 WC6 / A217 WC9 / A217 C5 / A217 C12 / A351 CF8 / A351 CF8M / A351 CF3/ A351 CF3M / A352LCB
Back Seat Bushing	ASTM A 276 410 / A 276 304 / A 276 304L / A 276 316L
Gland	ASTM A 276 410 / A 276 304 / A 276 304L / A276 316L
Gland Flange	Carbon Steel / Stainless Steel
Stem Nut	ASTMA439 Gr.D2/Al. Bronze
Gland Packing	Graphite Asbestos / Graphoil / PTFE
Bonnet Gasket	Corrugated Soft Iron / Corrugated SS / Spiral Wound SS 304 with Asbestos or Graphoil / Octagonal Ring
Gland Eye - Bolt & Nut	Carbon Steel / Stainless Steel
Cross Bolts & Nuts	Carbon Steel / Stainless Steel
Hand Wheel	Carbon Steel
Hand Wheel Nut	Carbon Steel
Grub Screw	Carbon Steel
Studs/Bolts	ASTMA 193 Gr B7 / A 193 Gr B7M / A 193 Gr B8 / A 193 Gr B8M / A 320 Gr L7
Nut	ASTMA 194 Gr B7 / A 194 Gr B7M / A 194 Gr B8 / A 194 Gr B8M / A 194 Gr 4/7



CAST STEEL BOLTED BONNET GLOBE VALVE

MODEL NO. : SE-10



Dimensions

ISO PN 20 / ASME 150 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
**L,L-1-RF.BW	203	216	241	292	356	406	495	622	699	787	914	977	977	1295
H (approx)	330	390	410	475	540	585	725	825	940	1200	1270	1300	1350	1450
ØW	200	250	250	300	350	350	450	500	600	600	650	650	700	750
Wt. (approx) kg	23	29	40	59	95	115	178	268	385	540	760	1050	1225	1650

ISO PN 50 / ASME 300 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
**L,L-1-RF.BW	267	292	318	355	400	444	558	622	711	838	863	977	1016	1346
H (approx)	350	425	485	520	565	655	825	920	1155	1250	1295	1340	1385	1475
ØW	200	250	300	300	350	350	500	600	700	700	700	450*	550*	550*
Wt. (approx) kg	30	45	60	83	135	162	265	375	525	765	1100	1470	1680	2475

ISO PN 110 / ASME 600 Class

Size DN	50	65	80	100	125	150	200	250	300
**L,L-1-RF.BW	292	330	355	431	508	558	660	787	838
H (approx)	420	490	550	590	620	700	950	1140	1320
ØW	250	300	300	350	500	500	600	600	400*
Wt. (approx) kg	39	61	76	122	210	245	447	692	975

ISO PN 150 / ASME 900 Class

Size DN	50	65	80	100	125	150	200	250	300
**L,L-1-RF.BW	368	419	381	457	559	610	737	838	965
H (approx)	495	540	600	655	670	780	1050	1300	1480
ØW	300	350	350	500	500	350*	350*	400*	450*
Wt. (approx) kg	96	79	117	178	305	355	730	1050	1350

ISO PN 260 / ASME 1500 Class

Size DN	50	65	80	100	125	150	200	250
**L,L-1-RF.BW	368	419	470	546	673	705	832	991
H (approx)	550	580	625	750	810	925	1225	1450
ØW	300	350	400	450	500	600*	450*	500*
Wt. (approx) kg	116	125	145	210	395	475	925	1365

ISO PN 420 / ASME 2500 Class (Pressure Seal Design)

Size DN	50	65	80	100	125	150	200	250
**L,L-1-RF.BW	451	508	578	673	794	914	1022	1270
H (approx)	575	605	725	835	875	1200	1510	1720
ØW	350	350	350*	400*	400*	400*	450*	550*
Wt. (approx) kg	95	110	125	210	565	615	1050	1525



* Valves are available in Duplex & Super Duplex Stainless Steel and Nickel Aluminium Bronze. Please indicate Trim required and ask for individual technical data sheets provided separately for these special materials.

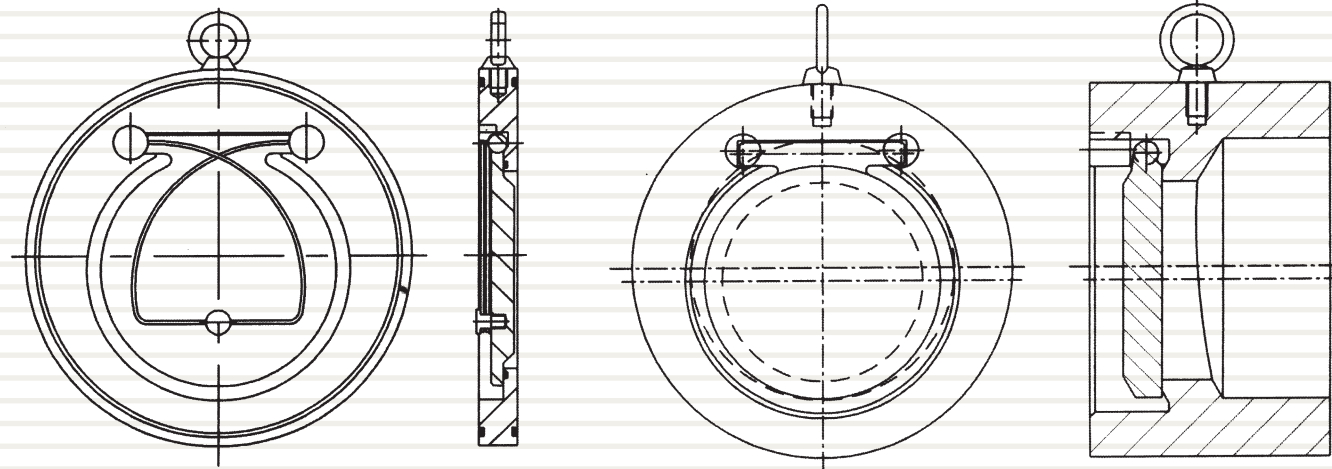
* CS & Alloy Steel Wedges and Seat Rings will be overlaid with 13% CR. or STELLITE 6 as per customer specifications.

* Gear Operation suggested. Dimensions on request.



SINGLE PLATE WAFER TYPE CHECK VALVE

MODEL NO. : SE-11



SHORT PATTERN

LONG PATTERN

* Dimensions on request

Features

- **STARTEK** Single Plate Wafer Check Valves conform to API 6D-ISO 14313/API 594/API 6A
- Pressure ratings to ASME B 16.34 class 150(PN 20) through 2500(PN 420) and API 6A pressure class 2000PSI through 10000 PSI and class 125, PN10 through PN40
- Single plate wafer type design suitable for mounting between flanges.
- One piece body configuration provides reduced weight and size. This results savings in initial cost, space and pipe support element installation
- Extremely low crack opening pressure
- Low pressure drop
- Efficient flow characteristics
- Lapped body/disc seats
- No fugitive emissions

Options

- Short pattern and long pattern
- closure assisted by spring loading
- Soft seat



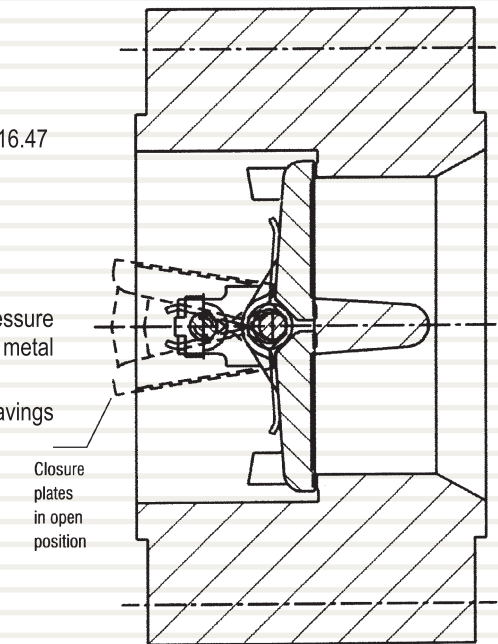
DUAL PLATE CHECK VALVES WAFER TYPE/FLANGED ENDS

MODEL NO. : SE-12



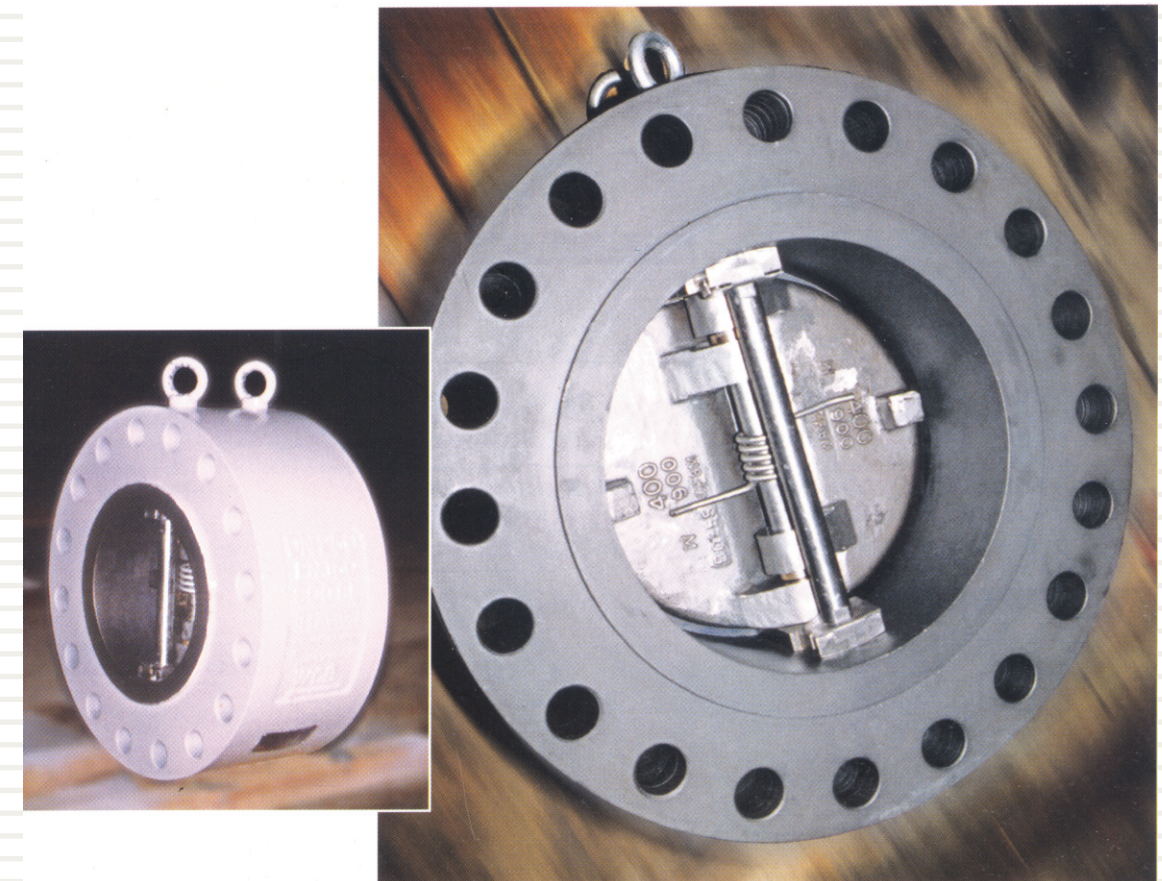
Features

- **STARTEK** Dual Plate Check Valves conform to API 6D-ISO 14313/API 594/API 6A •
- Body styles
 - Flanged connections to A SME B 16.5 RF / RTJ, API 605, API 6A MSS SP 44, A SME B 16.47
 - Flangeless (Wafer Style)
 - Lug (Drilled or Threaded)
 - Buttweld
 - Hub ends (for clamp joints)
- Pressure ratings to ASME B 16.34 class 150(PN 20) through 2500(PN 420) and API 6A pressure class 2000PSI through 10000PSI and class 125(for cast iron valves) Resilient or metal to metal seating
- One piece body configuration provides reduced weight and size. This results savings in initial cost, space and pipe support element installation
- Retainer less body design
- Lapped body/disc seats
- Shock bumpers on discs
- Hinge type design eliminating rattling effect
- Body ends with uninterrupted gasket surface
- No fugitive emissions
- Soft Seated



Closure plates in open position

* Dimensions on request





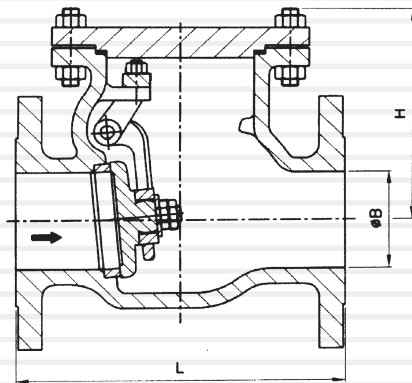
CAST STEEL BOLTED COVER SWING CHECK VALVES

MODEL NO. : SE-13



Features

- STARTEK Cast Steel Check Valves have been designed to meet the requirements of BS1868/ASME B16.34/API 6D-ISO 14313
- Face to Face and End to End dimensions conform to ASME B16.10/ISO 5752/BS 2080/DIN
- End flange dimensions conform to ASME B16.5/ISO 7005-1/API 605/BS 3293/DIN
- Butt weld end dimensions conform to ASME B16.25
- The Seat-rings are cylindrical bottom seated type having ample cross section for strength are provided with welded in and threaded Seat-rings will be supplied on request. In case of SS valves the Seat-rings are integral to Body
- The Body to Bonnet joint is a male & female in ISO PN 20, PN 50 & PN 110 / ASME 150#, 300# & 600# valves and ring joint is used in higher classes
- Valves meet the requirements of fugitive emission levels Shell category B as per MESC SPE 77/312



Options

- Tilting disc design available
- Check Valves can be supplied with counter weight or dash pot arrangement
- Full opening, piggable design available

Materials

Part Name	Material Option
Body	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Cover	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Disc *	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Hinge	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Hinge Bracket	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Hinge Pin	ASTM A 276 410 / A 276 304 / A 276 304L / A 276 316L
Seat Rings •	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3 / A 351 CF3M / A 352 LCB
Disc Nut	Carbon Steel / Stainless Steel
Washer	Carbon Steel / Stainless Steel
Gasket	SoftIron/SS304/Graphoil
Studs/Bolts	ASTM A193 Gr B7 / A193 Gr B7M / A193 Gr B8 / A193 Gr B8M / A 320 Gr L7
Nut	A STM A 194 Gr2H / A 194 GrB7M / A 194 GrB / A 194 Gr8M / A 194 Gr4 / 7

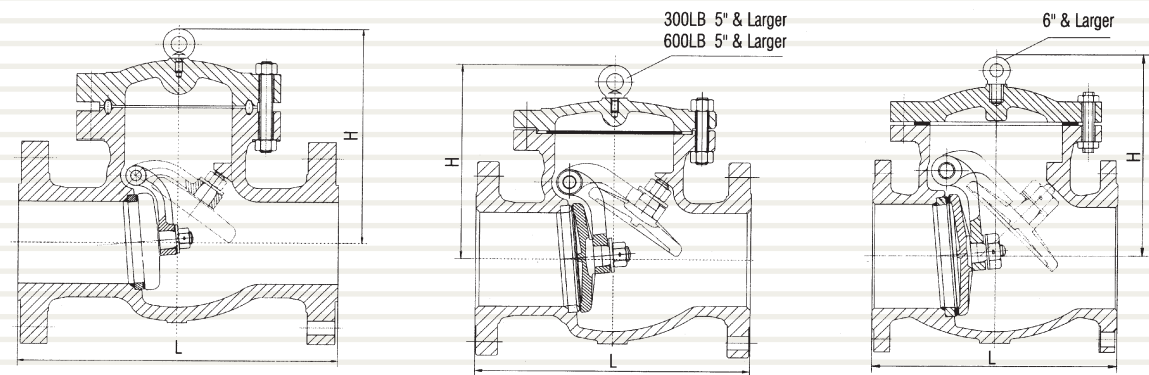
• Valves are available in Duplex & Super Duplex Stainless Steel and Nickel Aluminium Bronze. Please indicate Trim required and ask for individual technical data sheets provided separately for these special materials.

* CS & Alloy Steel Wedges and Seat Rings will be overlayed with 13% CR. or STELLITE 6 as per customer specifications.



CAST STEEL BOLTED COVER SWING CHECK VALVES

MODEL NO. : SE-13



Dimensions

ISO PN 20 / ASME 150 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
**L-RF-LI-BW	203	216	241	292	330	356	495	622	699	787	864	977	977	1295
H (approx)	155	190	200	225	245	260	305	390	410	435	530	570	625	675
Wt. (approx) kg	16	25	34	46	75	89	120	220	337	471	575	788	916	1275

ISO PN 50 / ASME 300 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
**L-RF-LI-BW	267	292	318	355	400	444	533	622	711	838	863	977	1016	1346
H (approx)	180	200	225	240	275	310	370	410	440	500	545	605	675	785
Wt. (approx) kg	26	32	53	73	110	157	234	348	450	650	800	970	1350	2210

ISO PN 110 / ASME 600 Class

Size DN	50	65	80	100	125	150	200	250	300	350	400	450	500
**L-RF-LI-BW	292	330	355	431	508	558	660	787	838	889	991	1092	1194
H (approx)	190	215	250	260	310	350	420	490	525	580	630	690	810
Wt. (approx) kg	33	49	62	95	120	195	360	465	725	875	1075	1475	1900

ISO PN 150 / ASME 900 Class

Size DN	50	65	80	100	125	150	200	250	300	350
**L-RF-LI-BW	368	419	381	457	559	610	737	838	965	1029
H (approx)	195	235	260	275	320	370	435	520	530	580
Wt. (approx) kg	55	70	90	135	165	295	525	900	1075	1225

ISO PN 260 / ASME 1500 Class

Size DN	50	65	80	100	125	150	200
**L-RF-LI-BW	368	419	470	546	673	705	832
H (approx)	220	270	290	310	350	410	485
Wt. (approx) kg	70	85	115	175	180	370	680

ISO PN 420 / ASME 2500 Class (Pressure Seal Cover)

Size DN	50	65	80	100	125	150	200	250	300
**L-RF-LI-BW	451	508	578	673	794	914	1022	1270	1422
H (approx)	280	310	325	370	425	500	525	630	695
Wt. (approx) kg	78	95	110	205	395	495	900	1300	1950





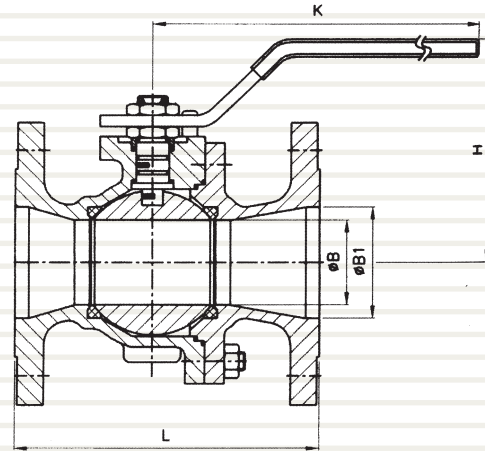
CAST STEEL, 2 PIECE, FLOATING BALL FULL and REDUCED PORT BALL VALVES

MODEL NO. : SE-14

STARTEK

Features

- STARTEK Cast Steel Ball Valves have been designed to meet the requirements BS 5351/ASME B 16.34/API 6D-ISO 14313/API 608/MSS SP 72
- Face to Face and End to End dimensions conform to ASME B 16.10 / ISO 5752 / BS 2080/API 6D-ISO 14313/DIN
- End flange dimensions conform to ASME B 16.5 / ISO 7005-1 / API 605 / BS 3293 / DIN
- Butt weld end dimensions conform to ASME B 16.25
- Fire tested design to API 607/API 6FA/BS 6755-II
- Flexible lip seats compensate for wear and changes in pressure
- Blow out proof stem construction
- Antistatic devices ensure electrical continuity between ball, stem & body
- Triple stem sealing
- ISO 5211 top pad for simplified gear/actuator mounting
- Valves meet the requirements of fugitive emission levels Shell category B as per MESCSPE 77/312



Options

- One, two or three piece construction
- For low temperature and cryogenic services (cold box and non-cold box applications) extended bonnet as per BS 6364 available I Locking arrangement
- Gear, Electrical, Hydraulic or Pneumatic actuator available
- Soft seats are recommended for service temperature up to 260 Deg.C and for higher temperatures a metal to metal seating offered

Materials

Part Name	Material Option
Body	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3/ A 351 CF3M/A 352 LCB
Side Piece	ASTM A 216 WCB / A 217 WC6 / A 217 WC9 / A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M / A 351 CF3/ A 351 CF3M/A 352 LCB
Ball	ASTMA351 CF8/A351 CF8M/A 182 F304/A 182 F316/A 182 F6a
Body Seal	PTFE / Graphoil / Spiral Wound SS 316 with Graphoil
Seats	PTFE/GET/Graphite filled PTFE
Stem	ASTM A182 F304/A 182 F316/A 182 F6a
Gland Bush	ASTM A182 F304/A 182 F316/A 182 F6a
Gland Packing	Graphoil / PTFE
Stem Packing	Graphite filled PTFE/Graphoil
Gland Nut	Stainless Steel
Stem Nut	Stainless Steel
Lever	Carbon Steel with PVC
Disc Spring	Carbon Steel
Studs / Bolts	ASTM A 193 B7/A 193 B7M/A 193 B8/A 193 B8M / A 320 L7
Nut	ASTM A 194 2H/A 194 B7M/ A 194 B / A 194 8M / A 194 4/7

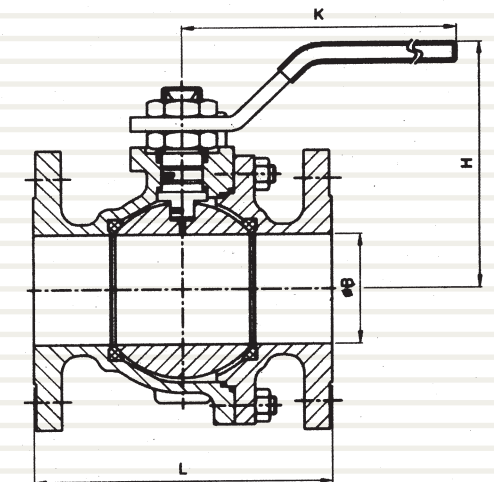
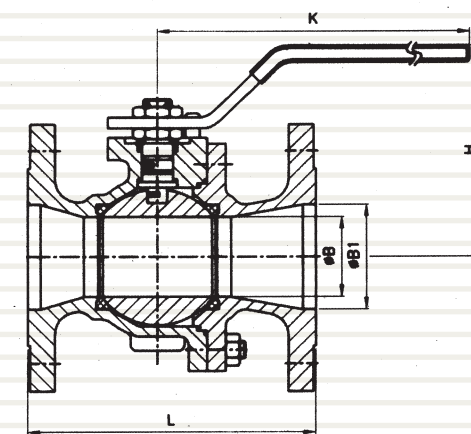
* Valves are available in Duplex & Super Duplex Stainless Steel and Nickel Aluminium Bronze. Please indicate Trim required and ask for individual technical data sheets provided separately for these special materials.



STARTEK

CAST STEEL, 2 PIECE, FLOATING BALL FULL and REDUCED PORT BALL VALVES

MODEL NO. : SE-14



Dimensions

Full Port

ISO DN 20 / ASME 150 Class

Size DN	15	20	25	40	50	65	80	100	150	200
L-RF	108	118	127	165	178	190	203	229	394	457
B	12.5	17	24	37	49	64	75	98	148	198
H (approx)	65	70	80	95	110	135	145	170	235	275
K	150	155	160	180	200	225	325	350	500	600
Wt. (approx) kg	3	4	5	8	12	21	26	43	80	155

ISO DN 50 / ASME 300 Class

Size DN	15	20	25	40	50	65	80	100	150	200
L-RF	140	152	165	190	216	241	282	305	403	502
B	12.5	17	24	37	49	64	75	98	148	198
H (approx)	70	85	90	105	120	145	160	195	250	290
K	155	160	180	200	225	325	350	500	600	700
Wt. (approx) kg	3	5	7	13	15	28	32	55	105	170

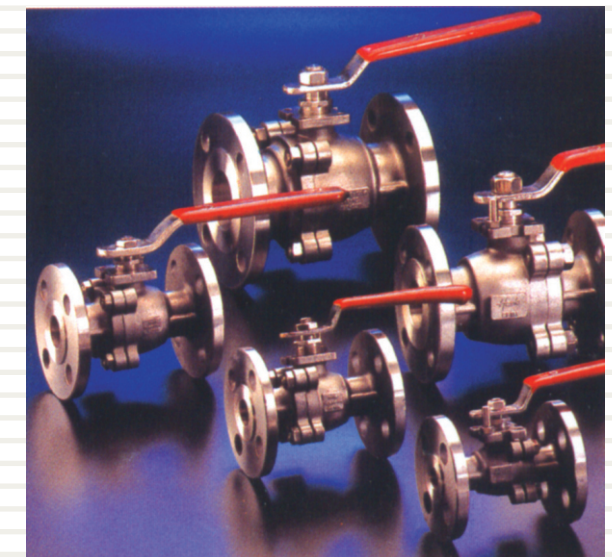
Reduced Port

ISO DN 20 / ASME 150 Class

Size DN	15	20	25	40	50	65	80	100	150	200
L-RF	108	118	127	165	178	190	203	229	394	457
B	9	12.5	17	28	36	50	57	75	98	144
H (approx)	65	70	80	95	110	135	145	170	210	250
K	145	150	155	160	180	200	225	325	350	500
Wt. (approx) kg	3	4	4	6	9	14	19	29	57	125

ISO DN 50 / ASME 300 Class

Size DN	15	20	25	40	50	65	80	100	150	200
L-RF	140	152	165	190	216	241	282	305	403	502
B	9	12.5	17	28	36	50	57	75	98	144
H (approx)	70	85	90	105	120	145	160	195	225	275
K	150	155	160	180	200	225	325	350	500	600
Wt. (approx) kg	3	4	5	8	14	22	28	41	75	140





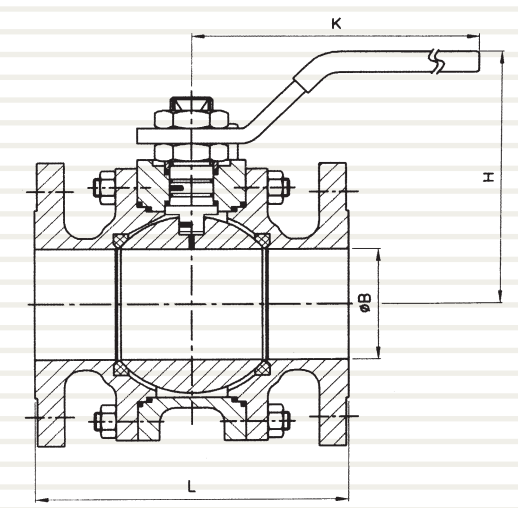
CAST STEEL, 3 PIECE, FLOATING BALL
FULL and REDUCED PORT BALL VALVES

MODEL NO. : SE-15



Features

- ▶ **STARTEK** Cast Steel Ball Valves have been designed to meet the requirements BS 5351/ASME B 16.34/API 6D-ISO 14313/API 608/MSS SP 72
- ▶ Face to Face and End to End dimensions conform to ASME B 16.10/ISO 5752 / BS2080/API6D-ISO14313/DIN
- ▶ End flange dimensions conform to ASME B 16.5 / ISO 7005-1 / API 605 / BS 3293 /1
- ▶ Butt weld end dimensions conform to ASME B 16.25
- ▶ Fire tested design to API 607/API 6FA/BS 6755-II
- ▶ Flexible lip seats compensate for wear and changes in pressure
- ▶ Blow out proof stem construction
- ▶ Antistatic devices ensure electrical continuity between ball, stem & body
- ▶ Triple stem sealing
- ▶ ISO 5211 top pad for simplified gear/actuator mounting
- ▶ Valves meet the requirements of fugitive emission levels Shell category B as per MESC SPE 77 / 312



Options

- ▶ For low temperature and cryogenic services (cold box and non-cold box applications) extended bonnet as per BS 6364 available
- ▶ Locking arrangement
- ▶ Gear, Electrical, Hydraulic or Pneumatic actuator available
- ▶ Soft seats are recommended for service temperature up to 260°C and for higher temperatures a metal to metal seating offered

Materials

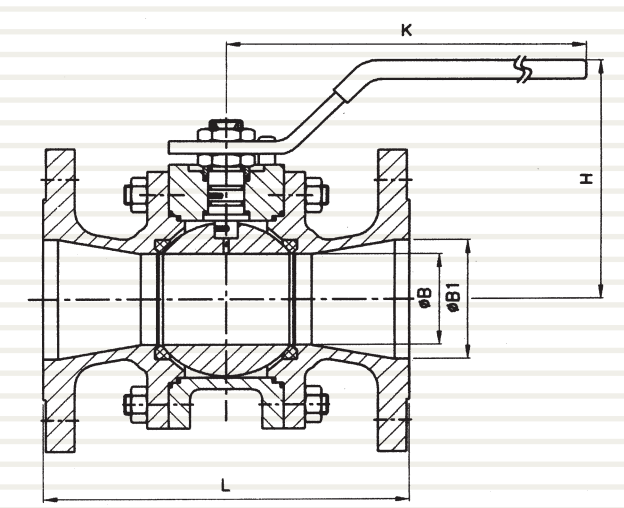
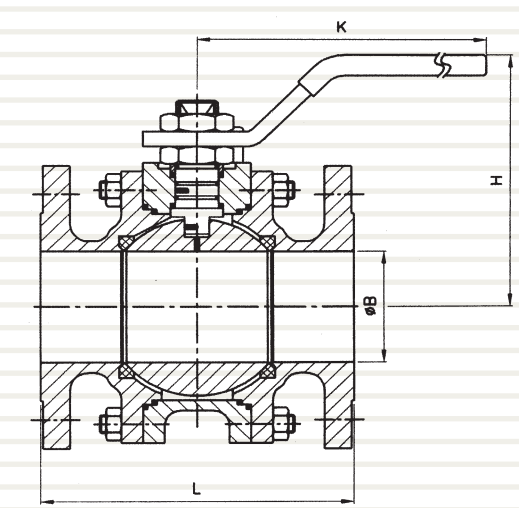
Part Name	Material Option
Body	ASTM A 216 WCB/A 217 WC6/A 217 WC9/ A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M/ A 351 CF3 / A 351 CF3M / A 352 LCB
Side Piece	ASTM A 216 WCB/A 217 WC6/A 217 WC9/ A 217 C5 / A 217 C12 / A 351 CF8 / A 351 CF8M/ A 351 CF3 / A 351 CF3M / A 352 LCB
Ball	ASTM A351 CF8/A351 CF8M/A182 F304/A182 F316/A182 F6a
Body Seal	PTFE/ Graphoil /Spiral Wound SS 316 with Graphoil
Seats	PTFE/GET/Graphite filled PTFE
Stem	ASTM A182 F304/A182 F316/A182 F6a
Gland Bush	ASTM A182 F304/A182 F316/A182 F6a
Gland Packing	Graphoil / PTFE
Stem Packing	Graphite filled PTFE/Graphoil
Gland Nut	Stainless Steel
Stem Nut	Stainless Steel
Lever	Carbon Steel with PVC
Disc Spring	Carbon Steel
Studs / Bolts	ASTMA 193 B7 /A 193 B7M/A 193 B8 /A 193 B8M/A 320 L7
Nut	ASTMA 1942 H/A 194 B7M/A 194 B/A 1948 M/A 1944 / 7

* Valves are available in Duplex & Super Duplex Stainless Steel and Nickel Aluminium Bronze. Please indicate Trim required and ask for individual technical data sheets provided separately for these special materials.



CAST STEEL, 3 PIECE, FLOATING BALL
FULL and REDUCED PORT BALL VALVES

MODEL NO. : SE-15



Dimensions

Full Port

ISO DN 20 / ASME 150 Class

Size DN	15	20	25	40	50	65	80	100	150	200
L-RF	108	118	127	165	178	190	203	229	394	457
B	12.5	17	24	37	49	64	75	98	148	198
H (approx)	65	70	80	95	110	135	145	170	235	275
K	150	155	160	180	200	225	325	350	500	600
Wt. (approx) kg	3	4	5	8	13	22	28	45	83	158

ISO DN 50 / ASME 300 Class

Size DN	15	20	25	40	50	65	80	100	150	200
L-RF	140	152	165	190	216	241	282	305	403	502
B	12.5	17	24	37	49	64	75	98	148	198
H (approx)	70	85	90	105	120	145	160	195	250	290
K	155	160	180	200	225	325	350	500	600	700
Wt. (approx) kg	3	5	7	14	17	30	35	58	110	175

Reduced Port

ISO DN 20 / ASME 150 Class

Size DN	15	20	25	40	50	65	80	100	150	200
L-RF	108	118	127	165	178	190	203	229	394	457
B	9	12.5	17	28	36	50	57	75	98	144
H (approx)	65	70	80	95	110	135	145	170	210	250
K	145	150	155	160	180	200	225	325	350	500
Wt. (approx) kg	3	4	5	7	10	14	20	30	60	128

ISO DN 50 / ASME 300 Class

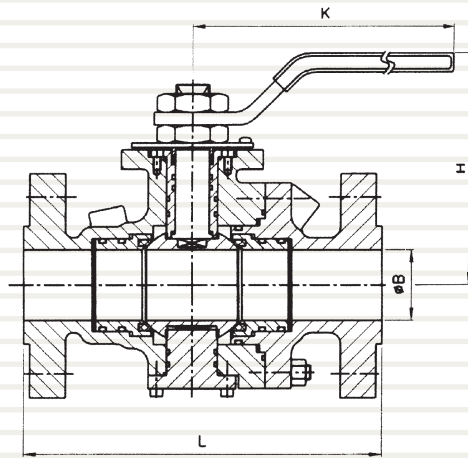
Size DN	15	20	25	40	50	65	80	100	150	200
L-RF	140	152	165	190	216	241	282	305	403	502
B	9	12.5	17	28	36	50	57	75	98	144
H (approx)	70	85	90	105	120	145	160	195	225	275
K	150	155	160	180	200	225	325	350	500	600
Wt. (approx) kg	3	4	5	9	15	23	30	42	78	145





CAST STEEL, 2 PIECE, TRUNNION MOUNTED FULL and REDUCED PORT BALL VALVES

MODEL NO. : SE-16



Features

- ▶ **STARTEK** Cast Steel Ball Valves have been designed to meet the requirements BS 5351/ASME B 16.34/API 6D-ISO 14313/API 608/MSS SP 72
- ▶ Face to Face and End to End dimensions conform to ASME B 16.10 / ISO 5752 / BS 2080 / API 6D-ISO 14313 / DIN
- ▶ End flange dimensions conform to ASME B 16.5 / ISO 7005-1 / API 605 / BS 3293 / DIN
- ▶ Butt weld end dimensions conform to ASME B 16.25
- ▶ Fire tested design to API 607/API 6FA/BS 6755-II
- ▶ Pressure energized seat rings with spring assistance for preloading ensure leak tightness even at low pressure
- ▶ Blow out proof stem construction
- ▶ Double block and bleed
- ▶ Antistatic devices ensure electrical continuity between ball, stem and body
- ▶ Bearing pads fix the ball and absorb total thrust of the medium relieving the downstream sealing of the load
- ▶ ISO 5211 top pad for simplified gear/actuator mounting
- ▶ Valves meet the requirements of fugitive emission levels Shell category B as per MESIC SPE 77 / 312

Options

- ▶ Two or three piece construction
- ▶ For low temperature and cryogenic services (cold box and non-cold box applications) extended bonnet as per BS 6364 available
- ▶ Locking arrangement
- ▶ Gear, Electrical, Hydraulic or Pneumatic actuator available
- ▶ Soft seats are recommended for service temperature up to 260°C and for higher temperatures metal to metal seating offered
- ▶ Emergency sealant injection system
- ▶ Large valves are provided with lifting lugs and installation supports.

Materials

Part Name	Material Option
Body	ASTMA216WCB/A217WC6/A217WC9/A217C5/A217C12/A351CF8/A351CF8M/A351CF3/A351CF3M/A352LCB
Side Piece	ASTMA216WCB/A217WC6/A217WC9/A217C5/A217C12/A351CF8/A351CF8M/A351CF3/A351CF3M/A352LCB
Ball	ASTM A351 CF8/A351 CF8M/A182 F304/A182 F316/A182 F6a
Body Seal	PTFE/Graphoil/Spiral Wound SS 316 with Graphoil
Seats	PTFE/GET/Graphite filled PTFE
Seat Retainer	ASTMA216WCB/A217WC6/A217WC9/A217C5/A217C12/A351CF8/A351CF8M/A351CF3/A351CF3M/A352LCB
Stem	ASTM A182 F304/A182 F316/A182 F6a
Trunnion	ASTM A 216 WCB / A 217 WC6 / A 217 WC9/A217C5/A217C12/A351CF8/A351CF8M/A351CF3/A351CF3M/A352LCB
Gland Housing	ASTM A 216 WCB/A217WC6/A217WC9/A217C5/A217C12/A351CF8/A351CF8M/A351CF3/A 351 CF3M/A 352 LCB
Top Plate	ASTM A 216 WCB/A217WC6/A 217 WC9/A 217 C5/A 217 C12/A 351 CF8/A351CF8M/A351CF3/A351CF3M/A352LCB
Spring	Spring Steel/SS 304/SS 316/Inconel X 750
'O' Ring	VITON/ Silicon Rubber/ Graphite
Gland	ASTM A182 F304/A182 F316/A182 F6a
Gland Packing	Graphoil/ PTFE
Stem Packing	Graphite filled PTFE/Graphoil
Gland Nut	Stainless Steel
Stem Nut	Stainless Steel
Lever	Carbon Steel with PVC
GearBox/ Actuator	Manufacturer's Standard
Studs/ Bolts	ASTM A193 B7/A193 B7M/A193 B8/A193 B8M/A 320 L7
Nut	ASTM A194 2H/A194 B7M/A194 B/A194 8M/A194 4/7

* Valves are available in Duplex & Super Duplex Stainless Steel and Nickel Aluminium Bronze. Please indicate Trim required and ask for individual technical data sheets provided separately for these special materials.

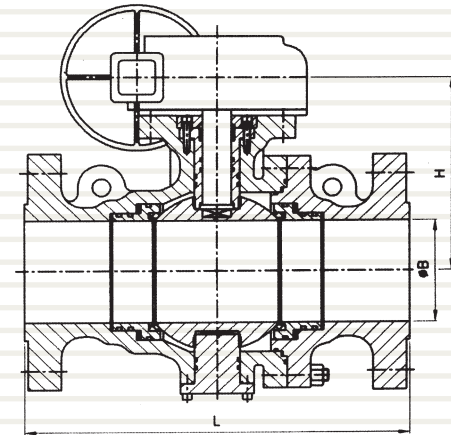
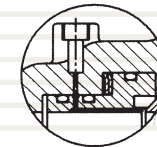


CAST STEEL, 2 PIECE, TRUNNION MOUNTED BALL VALVES

MODEL NO. : SE-16



Sealant Injection System



Dimensions

ISO PN 20 / ASME 150 Class

Size DN	150	200	250	300	350	400	450	500	600
L - RF	394	457	533	610	686	762	864	914	1067
B	148	198	248	298	335	380	438	489	591
H (approx)	270	315	360	410	425	475	525	590	695
ØW	300	300	400	400	600	600	600	600	750
Wt.(approx)kg	110	160	320	448	567	850	1050	1350	1750

ISO PN 50 / ASME 300 Class

Size DN	150	200	250	300	350	400	450	500	600
L - RF	403	501	568	635	762	838	914	991	1143
B	148	198	248	298	335	380	438	489	591
H (approx)	285	345	380	435	450	495	570	615	710
ØW	300	300	400	400	600	600	600	750	750
Wt.(approx)kg	128	210	345	560	780	1020	1200	1625	2285

ISO PN 110 / ASME 600 Class

Size DN	50	65	80	100	150	200	250	300	350	400	450	500	600
L - RF	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
B	51	64	76	102	148	198	245	295	325	375	438	489	591
H (approx)	190	230	265	295	300	355	415	455	505	515	600	640	735
ØW	250	250	300	300	400	400	400	600	600	600	750	750	750
Wt.(approx)kg	34	40	45	98	200	395	555	840	1015	1220	1350	2080	2745

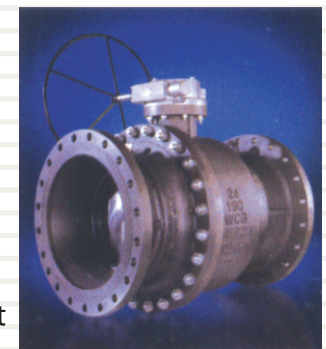
ISO PN 150 / ASME 900 Class

Size DN	50	65	80	100	150	200	250	300	350	400	450	500	600
L - RF	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
B	51	64	76	98	148	198	245	295	325	375	438	489	570
H (approx)	210	250	285	280	360	455	510	525	595	650	685	695	735
ØW	250	300	300	400	400	600	600	600	750	750	750	750	750
Wt.(approx)kg	45	50	72	130	235	495	690	1050	1350	1750	2300	2850	4800

ISO PN 260 / ASME 1500 Class

Size DN	50	65	80	100	150	200	250	300
L - RF	368	419	470	546	705	832	990	1130
B	51	64	76	102	146	194	241	290
H (approx)	230	260	290	305	370	470	520	575
ØW	300	300	400	400	600	600	750	750
Wt.(approx)kg	52	74	98	144	320	695	960	1550

ISO PN 420 /
ASME 2500 Class
Dimensions &
Weights on request





GATE, GLOBE, LIFT CHECK - BOLTED BONNET FORGED VALVES

MODEL NO. : SE-17



Features

- ◆ **STARTEK** Forged Steel Valves have been designed to meet the requirements of API 602 / BS 5352 / ASME B 16.34
- ◆ Socket weld ends dimensions conforms to ASME B 16.11
- ◆ Screwed ends dimensions conforms to ASME B 1.20.1
- ◆ Outside screw and yoke construction
- ◆ The gland is of two piece self aligning type
- ◆ Buckseat arrangement for Gate and Globe Valves.
- ◆ Valves meet the requirements of fugitive emission level Shell Category B as per MESC SPE 77/312

Options

- ◆ For low temperature and cryogenic services (cold box and non cold box) extended bonnet as per BS 6364 availablel
- ◆ Welded bonnet construction
- ◆ Locking arrangement
- ◆ Welded on flanges
- ◆ **Bellow Seal for critical service and hazardous area**

Materials

Part Name	Material Option
Body	ASTM A 105 / 182 F304 / 182 F304L / 182 F316 / 182 F316L / 182 F11 / 182 F22 / 350 LF2
Bonnet	ASTM A 105 / 182 F304 / 182 F304L / 182 F316 / 182 F316L / 182 F11 / 182 F22 / 350 LF2
Wedge/Plugl *	ASTM A182 F6a / 182 F304 / 182 F304L / 182 F316 / 182 F316L / 182 F11 / 182 F22 / 350 LF2
Stem	ASTM A 276 T410 / 182 F304 / 182 F304L / 182 F316 / 182F316L / 182F11 / 182F 22 / 350 LF2
Seat Rings *	ASTM A 182 F6a / 182 F304 / 182 F304L / 182 F316 / 182 F316L / 182 F11 / 182 F22 / 350 LF2
Back Seat Bushing	Integral
Gland	ASTM A 276 T410 / 182 F304 / 182 F304L / 182 F316 / 182 F316L / 182 F11 / 182 F22 / 350 LF2
Gland Flange	ASTM A 105 / 182 F304 / 182 F304L / 182 F316 / 182 F316L / 182 F11 / 182 F22 / 350 LF2
Stem Nut	ASTM A 439 Gr.D2/AL.Bronze
Lock Nut	Carbon Steel/SS 304
Gland Packing	Graphited Asbestos /Grafoil/PTFE
Bonnet Gasket	Spiral Wound SS 304 / 304L / 316 / 316L with Asbestos / Teflon or Grafoil
Gland Eye Bolt & Nut	SS410/SS304
Hand Wheel	Carbon Steel
Hand Wheel Nut	Carbon Steel
Studs / Bolts	ASTM A 193 B7 / A 193 B7M / A 193 B8 / A 193 B8M / A 320 L7
Nut	ASTM A194 2H / A 194 2HM / A 1948 / A 194 8M / A 1944 / 7



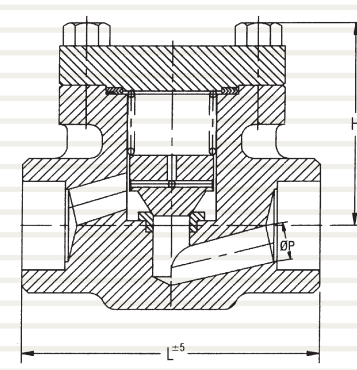
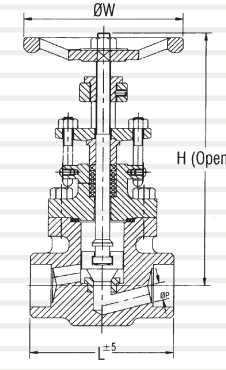
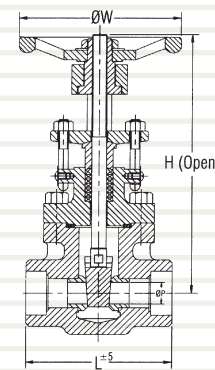
* Valves are available in Duplex & Super Duplex Stainless Steel and Nickel Aluminium Bronze. Please indicate Trim required and ask for individual technical data sheets provided separately for these special materials.

* Wedge / Plug and Seat Rings will be overlayed with STELLITE 6 as per customer specifications.



GATE, GLOBE, LIFT CHECK - BOLTED BONNET FORGED VALVES

MODEL NO. : SE-17



Dimensions

Gate Valve - Class 800

Size DN	6	10	15	20	25	32	40	50
L	85	85	85	92	105	125	125	135
P	6.4	6.4	9.5	12.7	17.5	22.8	22.6	36.5
H (approx)	165	165	165	175	195	265	265	275
ØW	85	85	85	85	150	150	150	150
Wt. (approx) kg	2	2	2	3	3	8	8	10

Gate Valve - Class 1500

Size DN	6	10	15	20	25	32	40
L	92	92	92	105	125	125	135
P	6.4	6.4	9.5	12.7	15.9	19	27
H (approx)	175	175	175	195	265	275	275
ØW	90	90	90	100	150	150	150
Wt. (approx) kg	3	3	3	4	8	10	10

Gate Valve - Class 2500 (Pressure Seal Design)

Size DN	6	10	15	20	25	40
L	90	90	103	128	128	142
ØW	105	105	140	150	150	150
'H' (approx)	160	160	205	270	270	280
Wt. (approx) kg	2.6	2.6	3.6	7.6	7.6	10

Globe Valve - Class 800

Size DN	6	10	15	20	25	32	40	50
L - SP	85	85	92	105	125	125	135	-
L - RP	85	85	85	92	105	125	125	135
P - SP	6	9	12	17.5	22.5	29.5	35	-
P - RP	6	6	9	12	17.5	22.5	29.5	35
H - SP	175	175	175	190	250	250	285	-
H - RP	170	170	170	175	190	250	250	285
W - SP	90	90	90	100	150	150	150	-
W - RP	85	85	85	85	100	150	150	150
Wt.-SP (approx) kg	3	3	3	4	8	8	11	11
Wt.-RP (approx) kg	2	2	2	3	4	8	8	11

Globe Valve - Class 1500

Size DN	6	10	15	20	25	32	40
L	92	92	92	105	125	130	135
P	6	6	11	14.5	19	27	31
H (approx)	175	175	175	190	250	250	255
ØW	90	90	90	100	150	150	150
Wt. (approx) kg	3	3	3	4	8	8	11

Abbreviations : SP - Standard Port • RP - Reduced Port

Globe Valve - Class 2500 (Pressure Seal Design)

Size DN	6	10	15	20	25	40
L	90	90	103	128	128	142
ØW	105	105	140	150	150	150
'H' (approx)	160	160	205	270	270	280
Wt. (approx) kg	2.6	2.6	3.6	7.6	7.6	10

Lift Check Valve - Class 800

Size DN	6	10	15	20	25	32	40	50
L - SP	85	85	92	105	125	125	135	-
L - RP	85	85	85	92	105	125	125	135
P - SP	6	9	12	17.5	22.5	29.5	35	-
P - RP	6	6	9	12	17.5	22.5	29.5	35
H - SP	55	55	55	70	105	105	115	-
H - RP	55	55	55	65	70	105	105	115
Wt.-SP (approx) kg	2	2	2	4	6	6	9	-
Wt.-RP (approx) kg	2	2	2	3	4	6	6	8

Lift Check Valve - Class 1500

Size DN	6	10	15	20	25	32	40
L - SP	92	92	92	105	125	130	135
P - SP	6	6	11	14.5	18	27	31
H - SP	65	65	65	70	105	115	115
Wt. (approx) kg	4	4	4	4	7	10	10

Lift Check Valve - Class 2500 (Pressure Seal Cover)

Size DN	6	10	15	20	25	40
L	90	90	103	128	128	142
H (approx)	60	60	70	90	90	112
Wt. (approx) kg	2	2	4	8	8	9.5



GATE, GLOBE, LIFT CHECK
- BOLTED BONNET FORGED VALVES



Class 150 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
1/2	15	3.50	89	2.39	60.5	1.38	35	0.44	11.1	0.62	16	4	1/2
3/4	20	3.88	98	2.75	70.0	1.69	43	0.50(0.44)	12.7(11.1)	0.62	16	4	1/2
1	25	4.25	108	3.12	79.2	2.00	51	0.56(0.44)	14.3(11.1)	0.62	16	4	1/2
1 1/4	32	4.62	117	3.50	89.0	2.50	64	0.62(0.50)	15.9(12.7)	0.62	16	4	1/2
1 1/2	40	5.00	127	3.88	98.5	2.88	73	0.69(0.56)	17.5(14.3)	0.62	16	4	5/8
2	50	6.00	152	4.75	120.5	3.62	92	0.75(0.62)	19.1(15.9)	0.75	19	4	5/8
2 1/2	65	7.00	178	5.50	139.5	4.12	105	0.88(0.69)	22.3(17.5)	0.75	19	4	5/8
3	80	1.50	190	6.00	152.5	5.00	127	0.94(0.75)	23.9(19.1)	0.75	19	4	5/8
4	100	9.00	229	7.50	190.5	6.19	157	0.94	23.9	0.75	19	8	5/8
4	125	10.00	254	8.50	216.0	7.31	186	0.94	23.9	0.88	22	8	3/4
6	150	11.00	279	9.50	241.5	8.50	216	1.00	25.4	0.88	22	8	3/4
8	200	13.50	343	11.75	298.5	10.62	270	1.12	28.6	0.88	22	8	3/4
10	250	16.00	406	14.25	362.5	12.15	324	1.19	30.2	1.00	25	12	7/8
12	300	19.00	483	17.00	432.5	15.00	381	1.25	31.8	1.00	25	12	7/8
14	350	21.00	533	18.75	476.0	16.25	413	1.38	35.0	1.12	29	12	1
16	400	23.50	597	21.25	539.5	18.50	470	1.44	36.6	1.12	29	16	1
18	450	25.00	635	22.75	578.0	21.00	533	1.56	39.7	1.25	32	16	1 1/8
20	500	27.50	698	25.00	635	23.00	584	1.69	42.9	1.25	32	20	1 1/8
24	600	32.00	813	29.50	749.5	27.25	692	1.88	47.7	1.38	35	20	1 1/4

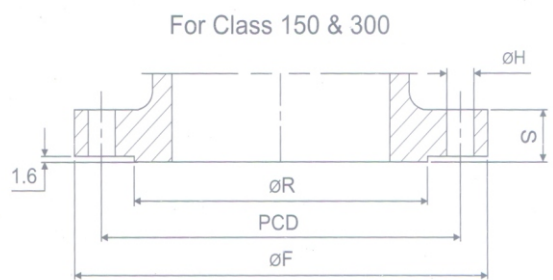
Class 300 Steel Flange Dimensions

DIMENSION IN () ARE FOR VALVE FLANGES ONLY

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
1/2	15	3.75	95	2.62	66.5	1.38	35	0.56	14.3	0.62	16	4	1/2
3/4	20	4.62	117	3.25	82.5	1.69	43	0.62	15.9	0.75	19	4	5/8
1	25	4.88	124	3.50	89.0	2.00	51	0.69	17.5	0.75	19	4	5/8
1 1/4	32	5.25	133	3.88	98.5	2.50	64	0.75	19.1	0.75	19	4	5/8
1 1/2	40	6.12	156	4.50	114.5	2.88	73	0.81	20.7	0.88	22	4	3/4
2	50	6.50	165	5.00	127.0	3.62	92	0.88	22.3	0.75	19	8	5/8
2 1/2	65	7.50	190	5.88	149.0	4.12	105	1.00	25.4	0.88	22	8	3/4
3	80	8.25	210	6.62	168.0	5.00	127	1.12	28.6	0.88	22	8	3/4
4	100	10.00	254	7.88	200.0	6.19	157	1.25	31.8	0.88	22	8	3/4
5	125	11.00	279	9.25	235.0	7.31	186	1.38	35.0	0.88	22	8	3/4
6	150	12.50	318	10.62	270.0	8.50	216	1.44	36.6	0.55	22	12	3/4
8	200	15.00	381	13.00	330.0	10.60	270	1.62	41.3	1.00	25	12	7/8
10	250	17.50	444	15.25	387.5	12.75	324	1.88	47.7	1.12	29	16	1
12	300	20.50	521	17.75	451.0	15.00	381	2.00	50.8	1.25	32	16	1 1/8
14	350	23.00	584	20.25	514.5	16.25	413	2.12	54.0	1.25	32	20	1 1/8
16	400	25.50	648	22.50	571.5	18.50	470	2.25	57.2	1.39	35	20	1 1/4
18	450	28.00	711	24.75	628.5	21.00	533	2.38	60.4	1.38	35	24	1 1/4
20	500	30.50	775	27.00	686.0	23.00	584	2.50	63.5	1.38	35	24	1 1/4
24	600	36.00	914	32.00	813.0	27.25	692	2.75	69.9	1.62	41	24	1 1/2



GATE, GLOBE, LIFT CHECK
- BOLTED BONNET FORGED VALVES



Class 150 Steel Flange Dimensions

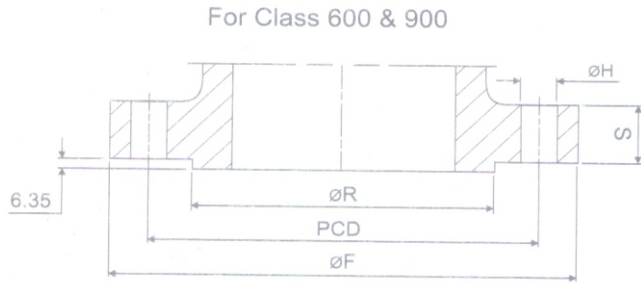
Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
26	650	30.94	786	29.31	744.5	28.00	711.2	1.62	41.3	0.88	22.2	36	3/4
28	700	32.94	837	31.31	795.3	30.00	762.0	1.75	44.4	0.88	22.2	40	3/4
30	750	34.94	887	33.31	846.1	32.00	812.8	1.75	44.4	0.88	22.2	44	3/4
32	800	37.06	941	35.44	900.1	34.00	863.6	1.81	46.0	0.88	22.2	48	3/4
34	850	39.56	1005	37.69	957.3	36.25	920.8	1.94	49.2	1.00	25.4	40	7/8
36	900	41.62	1057	39.75	1009.6	38.25	971.6	2.06	52.4	1.00	25.4	44	7/8
38	950	44.25	1124	42.12	1070.0	40.25	1022.4	2.12	54.0	1.12	28.6	40	1
40	1000	46.25	1175	44.12	1120.8	42.50	1079.5	2.19	55.6	1.12	28.6	44	1
42	1050	48.25	1226	46.12	1171.6	44.50	1130.3	2.31	58.7	1.12	28.6	48	1
44	1100	50.25	1276	48.12	1222.4	46.50	1181.1	2.38	60.3	1.12	28.6	52	1
46	1150	52.81	1341	50.56	1284.3	48.62	1235.1	2.44	61.9	1.25	31.8	40	1 1/8
48	1200	54.81	1392	52.56	1335.1	50.75	1289.0	2.56	65.1	1.25	31.8	44	1 1/8
50	1250	56.81	1443	54.56	1385.9	52.75	1339.8	2.69	68.3	1.25	31.8	48	1 1/8
52	1300	58.81	1494	56.56	1436.7	54.75	1390.8	2.75	69.8	1.25	31.8	52	1 1/8
54	1350	61.00	1549	58.75	1492.2	56.75	1441.1	2.81	71.4	1.25	31.8	56	1 1/8
56	1400	63.00	1600	60.75	1543.0	58.75	1492.3	2.88	73.0	1.25	31.8	60	1 1/8
58	1450	65.94	1675	63.44	1611.3	60.75	1543.0	2.94	74.6	1.38	34.9	48	1 1/4
60	1500	67.94	1726	65.44	1662.1	63.00	1600.0	3.00	76.2	1.38	34.9	52	1 1/4

Class 300 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
26	650	34.12	867	31.62	803.3	29.00	736.6	3.50	88.9	1.38	34.9	32	1 1/4
28	700	36.25	927	33.75	857.2	31.00	787.4	3.50	88.9	1.38	34.9	36	1 1/4
30	750	39.00	991	36.25	920.8	33.25	844.6	3.69	93.7	1.50	38.1	36	1 3/8
32	800	41.50	1054	38.50	977.9	35.50	901.7	4.06	103.2	1.62	41.3	32	1 1/2
34	850	43.62	1108	40.62	1031.9	37.50	952.5	4.06	103.2	1.62	41.3	36	1 1/2
36	900	46.12	1172	42.88	1089.0	39.75	1009.6	4.06	103.2	1.75	44.4	32	1 5/8
38	950	48.12	1222	44.88	1139.8	41.75	1060.4	4.38	111.1	1.75	44.4	36	1 5/8
40	1000	51.12	1273	46.88	1190.6	43.88	1114.4	4.56	115.9	1.75	44.4	40	1 5/8
42	1050	52.50	1334	49.00	1244.6	46.00	1168.4	4.69	119.1	1.88	47.6	36	1 3/4
44	1100	54.50	1384	51.00	1295.4	48.00	1219.2	5.00	127.0	1.88	47.6	40	1 3/4
46	1150	57.50	1460	53.75	1365.2	50.00	1270.2	5.06	128.6	2.00	50.8	36	1 7/8
48	1200	59.50	1551	55.75	1416.0	52.25	1327.2	5.06	128.6	2.00	50.8	40	1 7/8



GATE, GLOBE, LIFT CHECK
- BOLTED BONNET FORGED VALVES



Class 600 Steel Flange Dimensions

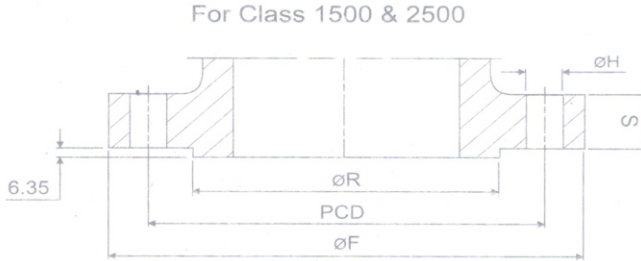
Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
1/2	15	3.75	95	2.62	66.5	1.38	35	0.56	14.3	0.62	16	4	1/2
3/4	20	4.62	117	3.25	82.5	1.69	43	0.62	15.9	0.75	19	4	5/8
1	25	4.88	124	3.50	89.0	2.00	51	0.69	17.5	0.75	19	4	5/8
1 1/4	32	5.25	133	3.88	98.5	2.50	64	0.81	20.7	0.75	19	4	5/8
1 1/2	40	6.12	156	4.50	114.5	2.88	73	0.88	22.3	0.88	22	4	3/4
2	50	6.50	165	5.00	127.0	3.62	92	1.00	25.4	0.75	19	8	5/
2 1/2	65	7.50	190	5.88	149.0	4.12	105	1.12	28.6	0.88	22	8	3/4
3	80	8.25	210	6.62	168.0	5.00	127	1.25	31.8	0.88	22	8	3/4
4	100	10.75	273	8.50	216.0	6.19	157	1.50	38.1	1.00	25	8	7/8
5	125	13.00	330	10.50	266.5	7.31	186	1.75	44.5	1.12	29	8	1
6	150	14.00	356	11.50	292.0	8.50	216	1.88	47.7	1.12	29	12	1
8	200	16.50	419	13.75	349.0	10.62	270	2.19	55.6	1.25	32	12	1 1/8
10	250	20.00	508	17.00	432.0	12.75	324	2.50	63.5	1.38	35	16	1 1/4
12	300	22.00	559	19.25	489.0	15.00	381	2.62	66.7	1.38	35	20	1 1/4
14	350	23.75	603	20.75	527.0	16.25	413	2.75	69.9	1.50	38	20	1 3/8
16	400	27.00	686	23.75	603.0	18.50	470	3.00	76.2	1.62	71	20	1 1/2
18	450	29.25	743	25.75	654.0	21.00	533	3.25	82.6	1.75	45	20	1 5/8
20	500	32.00	813	28.50	724.0	23.00	584	3.50	88.9	1.75	45	24	1 5/8
24	600	37.00	940	33.00	838.0	27.25	692	4.00	101.6	2.00	51	24	1 7/8

Class 900 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
	50	8.50	216	6.50	165.0	3.62	92	1.50	38.1	1.00	25	8	7/8
2 1/2	65	9.62	244	7.50	190.5	4.12	105	1.62	41.2	1.12	29	8	1
	80	9.50	241	7.50	190.5	5.00	127	1.50	38.1	1.00	25	8	7/8
4	100	11.50	292	9.25	235.0	6.19	157	1.75	44.5	1.25	32	8	1 1/8
	125	13.75	349	11.00	279.5	7.31	186	2.00	50.8	1.38	35	8	1 1/4
6	150	15.00	381	12.50	317.5	8.50	216	2.19	55.6	1.25	32	12	1 1/4
	200	18.50	470	15.50	393.7	10.62	270	2.50	63.5	1.50	38	12	1 3/8
10	250	21.50	546	18.50	470.0	12.75	324	2.75	69.9	1.50	38	16	1 3/8
	300	24.00	610	21.00	533.5	15.00	381	3.12	79.2	1.50	38	20	1 3/8
14	350	25.25	641	22.00	559.0	16.25	413	3.38	85.9	1.62	41	20	1 1/2
	400	27.75	705	24.75	616.0	18.50	470	3.50	88.9	1.75	45	20	1 5/8
18	450	31.00	787	27.00	686.0	21.00	533	4.00	101.6	2.00	51	20	1 7/8
	500	33.75	857	29.50	749.5	23.00	584	4.25	108.0	2.12	54	20	2
24	600	41.00	1041	35.50	901.5	27.25	692	5.50	139.7	2.62	67	20	2 1/2



GATE, GLOBE, LIFT CHECK
- BOLTED BONNET FORGED VALVES



Class 1500 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
2	50	8.50	216	6.50	165.0	3.62	92	1.50	38.1	1.00	25	8	7/8
2 1/2	65	9.62	244	7.50	190.0	4.12	105	1.62	41.2	1.12	29	8	1
3	80	10.50	267	8.00	203.0	5.00	127	1.88	47.8	1.25	32	8	1 1/2
4	100	12.25	311	9.50	241.5	6.19	157	2.12	53.9	1.38	35	8	1 1/4
5	125	14.75	375	11.50	292.0	7.31	186	2.88	73.2	1.62	41	8	1 1/2
6	150	15.50	394	12.50	317.5	8.50	216	3.25	82.6	1.50	38	12	1 3/8
8	200	19.00	483	15.50	393.5	10.62	270	3.62	92.0	1.75	45	12	1 5/8
10	250	23.00	584	19.00	482.5	12.75	324	4.25	108.0	2.00	51	12	1 7/8
12	300	26.50	673	22.50	571.5	15.00	381	4.88	124.0	2.12	54	16	2
14	350	29.50	749	25.00	635.0	16.25	413	5.25	133.4	2.38	60	16	2 1/4
16	400	32.50	826	27.75	705.0	18.50	470	5.75	146.1	2.62	67	16	2 1/2
18	450	36.00	914	30.50	774.5	21.00	533	6.38	162.1	2.88	73	16	2 3/4
20	500	38.75	984	32.75	832.0	23.00	584	7.00	177.8	3.12	79	16	3
24	600	46.00	1168	39.00	990.5	27.25	692	8.00	203.2	3.62	92	16	3 1/2

Class 2500 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
2	50	9.25	235	6.75	171.5	3.62	92	2.00	50.8	1.12	29	8	1
2 1/2	65	10.50	267	7.75	197.0	4.12	105	2.25	57.2	1.25	32	8	1 1/8
3	80	12.00	305	9.00	228.5	5.00	127	2.62	66.5	1.38	35	8	1 1/4
4	100	14.00	356	1.75	273.0	6.19	157	3.00	76.2	1.62	41	8	1 1/2
5	125	16.50	419	12.75	324.0	7.31	186	3.62	91.9	1.88	48	8	1 3/4
6	150	19.00	483	14.50	268.5	8.50	216	4.25	108.0	2.12	54	8	2
8	200	21.75	552	17.25	438.0	10.62	270	5.00	127.0	2.12	54	12	2
10	250	26.50	673	21.25	540.0	12.75	324	6.50	165.1	2.62	67	12	2 1/2
12	300	30.00	762	24.38	619.5	15.00	381	7.25	184.2	2.88	73	12	2 3/4

MSS SP - 44 Class 150, 300, & 600 RF Dimensions

Class 1500 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
22	550	9.25	235	6.75	171.5	3.62	92	2.00	50.8	1.12	29	8	1

Class 300 Steel Flange Dimensions

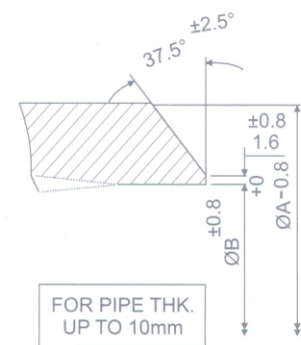
Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
2	550	9.25	235	6.75	171.5	3.62	92	2.00	50.8	1.12	29	8	1

Class 600 Steel Flange Dimensions

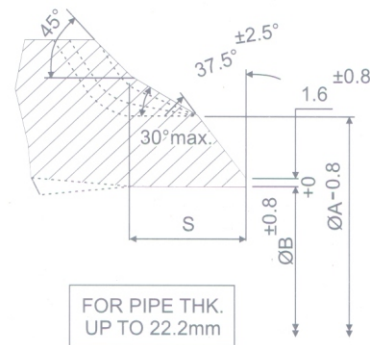
Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
2	550	9.25	235	6.75	171.5	3.62	92	2.00	50.8	1.12	29	8	1



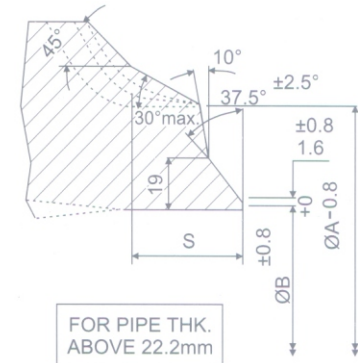
GATE, GLOBE, LIFT CHECK
- BOLTED BONNET FORGED VALVES



FOR PIPE THK.
UP TO 10mm



FOR PIPE THK.
UP TO 22.2mm



FOR PIPE THK.
ABOVE 22.2mm

PIPE SIZE	SCH.	PIPE O.D.	ØA	ØB	S	PIPE SIZE	SCH.	PIPE O.D.	ØA	ØB	S
1"	40	33.4	35	26.59	5.1	2.5"	40	73.0	75	62.6	7.8
	60						60				
	80			24.4	6.75		80			59	10.5
	100						100				
	120						120				
	140						140				
	160			20.7	9.52		160			54	14.25
	XXS			15.2	13.65		XXS			45	21
1.25"	40	42.4	44	35.0	5.4	3"	40	88.9	91.2	77.93	8.23
	60						60				
	80			32.4	7.35		80			73.66	11.43
	100						100				
	120						120				
	140						140				
	160			29.5	9.52		160			66.65	16.68
	XXS			22.78	14.55		XXS			58.42	22.86
1.5"	40	48.3	50	40.9	5.55	4"	40	114.3	117.4	102.26	9.03
	60						60				
	80			38.1	7.65		80			97318	12.84
	100						100				
	120						120			92.05	16.68
	140						140				
	160			34.0	10.72		160			87.33	20.23
	XXS			27.9	15.3		XXS			80.06	25.68
2"	40	60.3	62	52.5	5.85	5"	40	141.2	144.5	128.19	10
	60						60				
	80			49.3	8.25		80			122.25	14.2
	100						100				
	120						120			115.9	19
	140						140				
	160			42.9	13.05		160			109.55	23.81
	XXS			38.1	16.65		XXS			103.2	28.57



GATE, GLOBE, LIFT CHECK
- BOLTED BONNET FORGED VALVES



PIPE SIZE	SCH.	PIPE O.D.	ØA	ØB	S	PIPE SIZE	SCH.	PIPE O.D.	ØA	ØB	S
6"	40	168.3	172.2	154.05	10.66	16"	40	406.4	413	381	19.05
	60						60			373.08	24.99
	80			146.33	16.45		80			363.58	32.11
	100						100			354.03	39.28
	120			139.73	21.40		120			344.47	46.44
	140						140			333.35	54.78
	160			131.80	27.36		160			325.42	60.73
	XXS			124.38	32.91		XXS				
8"	40	219.1	223	202.72	12.27	18"	40	547.2	464.3	428.65	21.4
	60			198.45	15.46		60			419.1	28.57
	80			193.67	19.05		80			409.6	35.7
	100			188.89	22.63		100			398.48	44.04
	120			182.6	27.36		120			387.35	52.38
	140			177.83	30.93		140			377.85	59.5
	160			173.05	34.51		160			366.73	67.86
	XXS			174.62	33.33		XXS			431.8	19.05
10"	40	273	278	254.51	13.90	20"	40	508	516	477.88	22.63
	60			247.65	19.05		60			466.75	30.93
	80			242.87	22.63		80			455.63	39.28
	100			236.52	27.36		100			442.93	48.81
	120			230.17	32.11		120			431.8	57.15
	140			222.2	38.1		140			419.1	66.67
	160			215.90	42.85		160			407.97	74.98
	XXS						XXS			482.6	19.05
12"	40	323.8	329	303.23	15.46	22"	40	559	567.4		
	60			295.3	21.40		60			514.35	33.33
	80			288.95	26.17		80			501.65	42.86
	100			280.97	32.11		100			488.95	52.38
	120			273.05	38.1		120			476.25	61.9
	140			266.7	42.85		140			463.55	71.43
	160			257.2	49.98		160			450.85	80.96
	XS			298.45	19.05		XS			533.4	19.05
14"	40	355.6	362	333.35	16.68	24"	40	610	619	574.7	26.17
	60			325.42	22.63		60			560.37	36.88
	80			317.5	28.5		80			547.67	46.44
	100			308	35.7		100			531.83	58.33
	120			300.02	41.68		120			517.55	69.03
	140			292.1	47.62		140			504.85	78.55
	160			284.18	53.56		160			490.52	89.26
	XS			330.2	19.05		XS			584.2	19.05