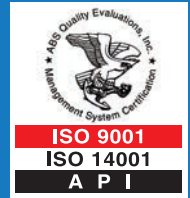




**SAMWOO KJS TEC CO., LTD.**  
**株式会社 三又 KJS TEC**



# VALVES

**CARBON & ALLOY STEEL VALVES**  
**STAINLESS STEEL VALVES**  
**CRYOGENIC VALVES**  
**BELLOWS VALVES**  
**GATE, GLOBE, CHECK,**  
**THROUGH CONDUIT GATE**  
**BALL VALVES**



CEO Mr. Bang



DIRECTOR Mr. Heu



Samwoo KJS Tec Co., Ltd. ("KJS") was established in 1974 and since then, KJS has been a leading manufacturer of high quality valves including Cast Carbon steel, Stainless steel, Alloy steel, Cryogenic & PSB valves.

KJS is fully committed to engineering excellence & product innovation supported by highly qualified technical engineering staffs & well skilled workers and KJS has been equipping with a flow operating system for Drawing, Casting, Machining, Assembling, Testing & Inspection.

For years, the premier line of KJS Gate / Globe / Check valves have been satisfying the needs of Oil, Gas, Petrochemical, Chemical & Power industries' most exacting standards, ASME, ANSI, ASTM, BS, API with the qualification of CE 0035 / ISO9001 / 14001.

KJS is well recognized as a world class company providing valves to the market on a global basis at the most competitive price and at right time delivery. We express our sincere thanks to you & your continuous cooperation and mutual benefits.

Faithully Yours,  
Chairman H.C.Bang

당사는 1974년 설립 된 이후 한국밸브제조업계의 선두주자로서 전 세계에 많은 산업용 밸브를 제조, 수출하고 있습니다.

설계에서 주물, 가공, 조립, 검사에 이르기 까지 단일 공장 내 일관공정을 유지하고, 많은 경험과 탁월한 기술력으로 고객의 국제적 수준의 요구를 만족할 충분한 능력과 설비를 보유하고 있습니다.

주 생산품은 주강, 스테인레스 스틸, 합금강 밸브 등이며 또한 초저온밸브와 초고압밸브의 생산도 저희의 자랑입니다.

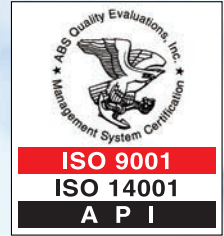
ISO 9001 및 ISO 14001의 국제인증을 바탕으로 석유화학에서 원자력에 이르는 품질규격을 만족하고 있음을 자신합니다.

납기준수를 원칙으로 하는 1등 업체로서, 고객의 관점에서 고객의 요구를 만족 시키도록 하겠습니다. 협조에 깊은 감사의 말씀을 드립니다.

감사합니다.

대표이사 방 효 철 올림

# GLOBAL CHAMPION KJS VALVES



# Quality Endorsed Company

## Samwoo KJS Tec

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## QUALITY ASSURANCE

Samwoo KJS Tec Co., Ltd's ("KJS") unparalleled Quality Assurance programs translate into "Peace of Mind" for our respected customers. KJS well operates under ISO 9001 / ISO 14001 registration. All valves are compliant to the industry standards of API, ASTM & ASME. Inspection & Test is maintained throughout the manufacturing process to verify compliance to these standards as well as any specific customer requirements.

## QUALITY APPROVAL

We have gained a reputation for manufacturing high performance valves with our quality assurance system being amazingly effective.

**ISO 9001** by **BVQI**. (Bureau Veritas Quality International Limited)

Jan. 1993 and renewed in Jan. 1996.

**ISO 14001** by BVQI. Nov. 1991.

**API 6D** (American Petroleum Institute)

Jan. 1992 and renewed in Feb. 1998.

**MOST** (Ministry of Science & Technology) Mar. 1992.

**LR** (Lloyd' s Register of Shipping) Jan. 1989.

**DNV** (Det Norske Veritas) July. 1989.

**KR** (Korean Register of Shipping) Oct. 1988.

**BV** (Bureau Veritas) Aug. 1993.

**GL** (Germanischer Lloyd) Aug. 1993 and renewed in July. 1997.

**TUV** Dec. 1999.

**CE** Jul. 2001.

**ISO API 600** Jan. 2010

**ISO 9001 & ISO 14001** by **ABS**. Nov. 2011.

## 품질보증

저희, (주)삼우케이제이에스텍은

미국석유협회규격(API), ISO 9001, ISO14001, 영국선급 LLOYD, 노르웨이선급 DNV,

과기처의 핵발전소용 주조업체인증, 독일선급 GL, 프랑스선급 BV, 독일공업규격(TUV),

압력용기(PED)제조업체인증등의 국제규격과 각종 국내규격을 확보하여 특별품질관리체계를 가지고 있습니다.

## BRIEF HISTORY

- 1970** Mar. 1974 Established Han Sung Steel Ind. Co.  
Mar. 1978 Supplementary registration for machinery Manufacturer.  
July. 1978 Registered as manufacturer of parts for shipbuilding industry.
- 1980** Mar. 1983 Removed all facilities and factory to Jang-Ji Ri, Ham-An Gun, Kyungnam, Korea.  
Jun. 1985 Renamed to KOOKJAE STEEL IND. CO., LTD.  
Sep. 1986 Set about equipping with the metallic mould cast line for exploitation of Bronze Castings with KIMM.  
Dec. 1987 Removed to Changwon Industrial complex (Present Location)  
May. 1988 Completed the building of steel castings shop & the installation of high frequency induction furnace.  
Oct. 1988 Approved steel Casting Manufacturer by K.R. (Korean Register of Shipping)  
Jan. 1989 Approved steel Casting Manufacturer by L.R. (Lloyd's Register of Shipping)  
Jun. 1989 Completed the machining shop construction and establishment of machinery.  
July. 1989 Approved steel Casting Manufacturer by D.N.V. (Det Norske Veritas)
- 1990** Mar. 1992 Approved Casting valve manufacturer for nuclear power plant by MOST (Ministry of Science & Technology)  
Dec. 1992 Audited Casting valve manufacturer for ISO 9001 by BVQI. (Bureau Veritas Quality International Limited)  
Feb. 1993 Approved Casting valve manufacturer for ISO 9001 by BVQI. (Bureau Veritas Quality International Limited)  
Aug. 1993 Approved Steel Casting Manufacturer by G.L. (Germanischer Lloyd) : Re Approved (July. 1997)  
Aug. 1993 Approved Steel Casting Manufacturer by B.V. (Bureau Veritas)  
Feb. 1996 Re-Approved as Casting valve manufacturer for ISO 9001 by BVQ.  
Aug. 1997 Re-Approved as Casting valve manufacturer for nuclear power plant by Korean Government.  
Feb. 1998 Re-Approved as Casting valve(6D) manufacturer by API.  
Nov. 1999 Approved as casting valve manufacturer in KJS's site for ISO 14001 by B.V.Q.I  
Dec. 1999 Approved as casting manufacturer by TÜV
- 2000** Jul. 2001 Approved as casting valve manufacturer for P.E.D (pressure Equipment Directive) by TÜV  
Oct. 2004 Renamed to Samwool KJS Tec Co., Ltd.  
Dec. 2006 Award of a Silver Industry Medal from the President of Korea  
Dec. 2007 Achieved Goal of Sales Volume of USD 35,000,000  
Nov. 2008 Awarded a prize of "USD 20,000,000 - Export Tower" from the President of Korea.
- 2010** Jan. 2010 Approved as casting valve API Standard 600  
Nov. 2011 Re-Approved as casting valve manufacturer for ISO 9001 & 14001 by ABS.

### COMPANY OUTLINE

**Capital** US \$ 5,500,000

**Site area** 17,955m<sup>2</sup>

**Shop & Office area** 11,523m<sup>2</sup>

**Production Capacity (Monthly Output)**

Casting 370ton/m

Valves 4,000sets



Pattern Shop



Foundry Shop



Machining Shop

- 1970**
  - 1974 한성철강으로 발족
  - 1978 기계제조업으로 등록
  - 1978 조선사업의 부품제조업체로 등록
- 1980**
  - 1983 경남 함안군 장지리로 이전
  - 1985 국제스틸공업 주식회사로 개명
  - 1986 청동주물주조에 관한 금형주조설비 구축
  - 1987 창원공단(현위치)로 이전
  - 1988 주조공장 완공 및 고주파 유도로 설치
  - 1988 한국선급의 주조업체로 인증
  - 1989 영국선급 로이드의 주조업체로 인증
  - 1989 가공공장 완공
  - 1989 노르웨이 선급 DNV의 주조업체로 인증
- 1990**
  - 1992 과기처의 핵발전소용 주조업체로 인증
  - 1993 ISO 9001 (프랑스BVQI주관) 인증획득
  - 1993 독일선급 GL의 주조업체로 인증
  - 1993 프랑스선급 BV의 주조업체로 인증
  - 1996 ISO 9001 (프랑스BVQI주관) 재인증
  - 1997 과기처의 핵발전소용 주조업체로 재인증
  - 1998 미국석유협회 (API)의 밸브제조업체로 인증
  - 1999 ISO 14001 (프랑스BVQI주관) 인증
  - 1999 독일공업규격(TÜV) 인증
- 2000**
  - 2001 독일공업규격(TÜV)에 의한 압력용기(PED)제조업체로 인증
  - 2004 주식회사 삼우KJS텍으로 상호변경
  - 2006 은탑산업훈장 대통령 표창
  - 2007 매출 350억원 달성
  - 2008 이천만불 수출탑 대통령 표창
- 2010**
  - 2010 미국석유협회 API Standard 600 인증
  - 2011 ISO 9001 & ISO 14001(ABS주관) 재인증

### 회사개요

- 자본금 55억원
- 부지면적 17,955㎡
- 건물연면적 11,523㎡
- 생산능력 주조 370톤/월
- 조립생산 4,000세트/월

# MANUFACTURING PROCESS

Samwoo KJS Tec Co., Ltd.'s ("KJS") manufacturing process has only a goal to produce high quality of valves to meet the demand of clients' exacting standards with up-date equipments / facilities & well skilled workers supported by highly qualified technical engineering staffs.

KJS have been well organized to perform all clients' requirements with In-house Production system of Drawing, Casting (RT / MT / PT / UT), Machining, Assembling, Testing, Inspection, Painting & Packing.

## 제조공정

삼우KJS텍은 최신설비와 고도의 숙련된 기술과 인원으로 오로지 고객의 품질표준을 만족시키는 것을 목표로 설계, 주조, 가공, 조립, 검사, 도장 및 포장등 엄격한 생산 및 품질관리를 하고 있습니다.

Design ▶



Casting ▶



Chemical analysis ▶



Inspection of casting item ▲



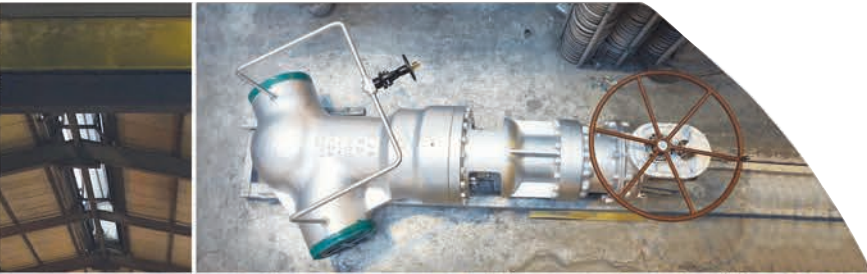


Lathe Machining



Drilling

◀ Packing



◀ Painting



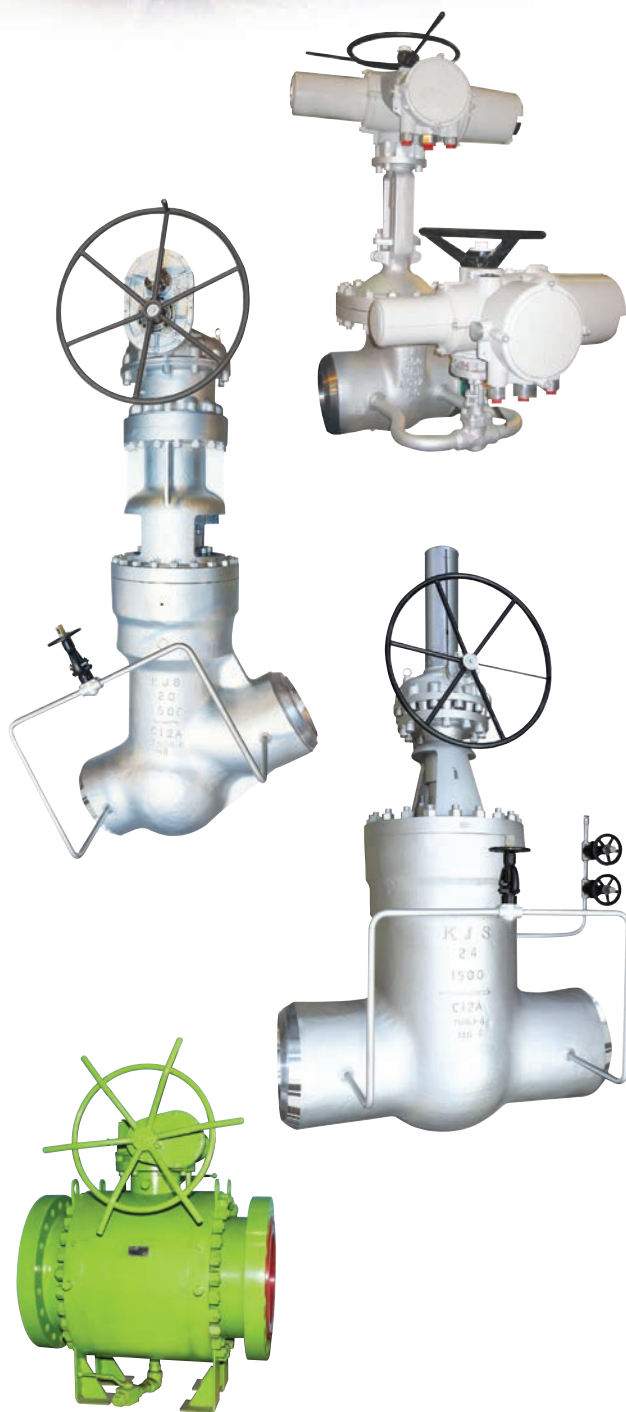
◀ Pressure test



▲ Machining

# MAIN PRODUCTION ITEM

Advanced techniques are applied to every stage of valve production.



## GATE VALVES

	150	300	600	900	1500	2500
BB	2"~56"	2"~48"	2"~42"	2"~24"	2"~24"	2"~12"
PB	-	-	2"~24"	2"~24"	2"~24"	2"~18"

## GLOBE VALVES

	150	300	600	900	1500	2500
BB	2"~18"	2"~16"	2"~16"	2"~16"	2"~16"	2"~12"
PB	-	-	2"~16"	2"~16"	2"~14"	2"~12"

## CHECK VALVES

	150	300	600	900	1500	2500
BB	2"~36"	2"~36"	2"~30"	2"~30"	2"~24"	2"~16"
PB	-	-	2"~24"	2"~24"	2"~24"	2"~20"

## THROUGH CONDUIT GATE VALVES

	150	300	600
BB	4"~24"	4"~24"	4"~24"

## NON RETURN VALVES

	600	900	1500	2500
BB	2"~16"	2"~16"	2"~14"	2"~12"

## PARALLEL GATE VALVES

	600	900	1500	2500
BB	2"~24"	2"~24"	2"~24"	2"~24"

## TILTING CHECK VALVES

	600	900	1500	2500
BB	2"~24"	2"~24"	2"~24"	2"~24"

## BELLOWS GATE VALVES

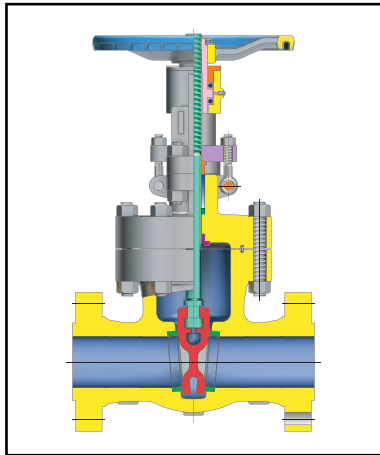
	150	300
BB	2"~20"	2"~20"

## BELLOWS GLOBE VALVES

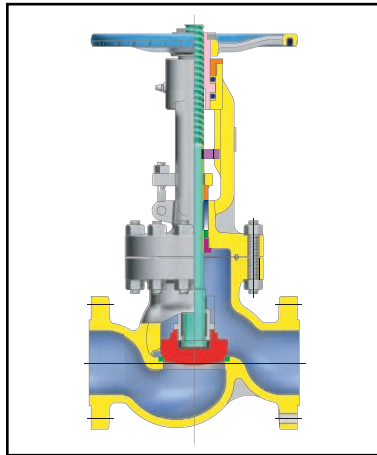
	150	300
BB	2"~12"	2"~12"

## BALL VALVES

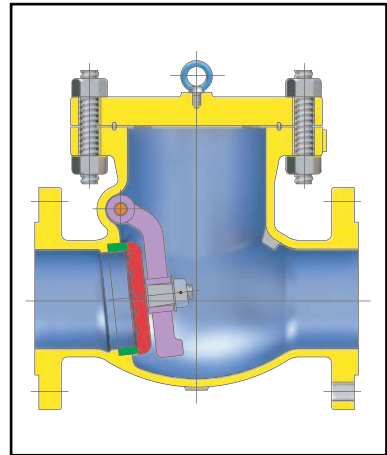
	150	300	600	900	1500	2500
BF	1/2"~12"	1/2"~10"	1/2"~6"	1/2"~2"	1/2"~2"	1/2"~2"
BT	6"~36"	4"~36"	2"~24"	2"~16"	2"~12"	2"~10"



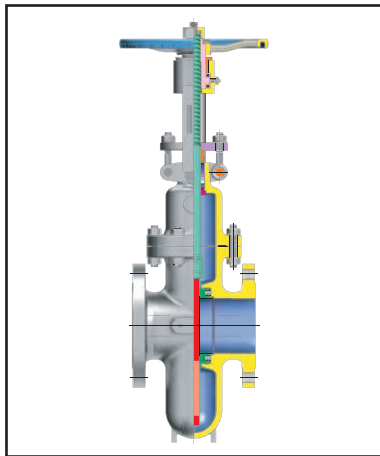
**GATE VALVE**



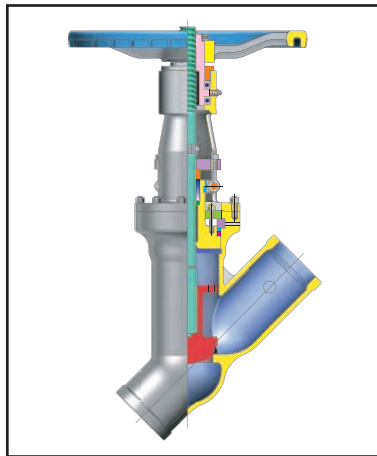
**GLOBE VALVE**



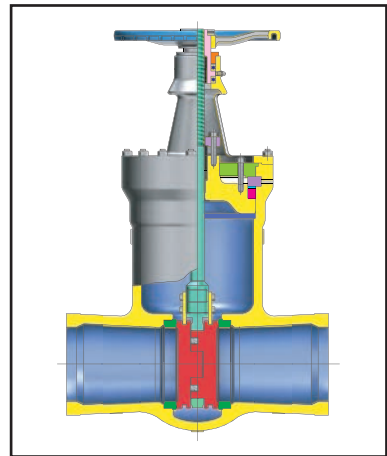
**CHECK VALVE**



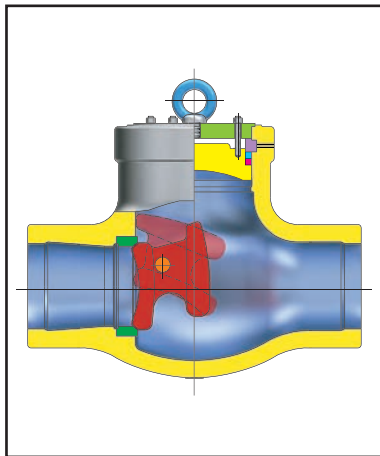
**THROUGH CONDUIT GATE VALVE**



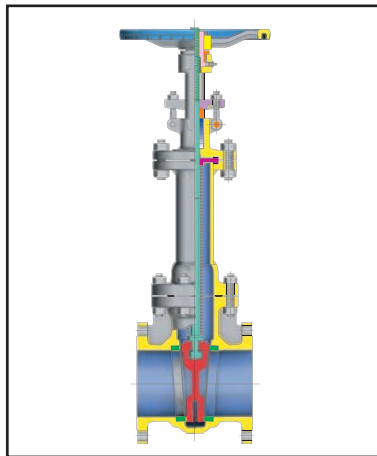
**NON RETURN VALVE**



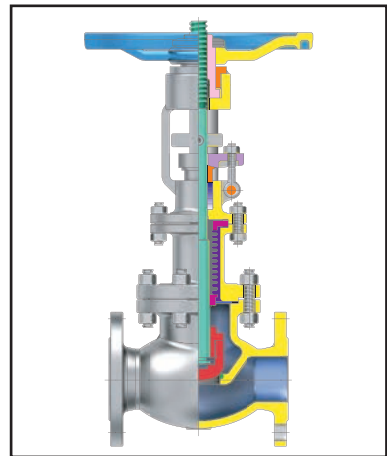
**PARALLEL GATE VALVE**



**TILTING CHECK VALVE**



**BELLOWS GATE VALVE**



**BELLOWS GLOBE VALVE**

Other valves not listed here can also be manufactured depending on the customer's specifications.

- Pressure-temperature ratings:  
ASME Class 150 to 2500
- Size : 2 inch to 56 inch
- Temperature range : -196 °C to 650 °C
- Manufacturing standards : API, ANSI, JPI, JIS, BS, DIN, GOST, MSS, ASME, ASTM, ISO and other user's specifications.
- Materials : Carbon steel, Alloy steel, Stainless steel, Monel, Forged steel, Cast iron and others.

# FIGURE NUMBER ABBREVIATIONS

## FIG. 16F-CB2\*

### End Connections

F=Flanged(Raised face)  
 W=Butt Weld  
 J=RTJ  
 S=Socket Weld  
 T=Threaded  
 B=Wafer  
 X=Special(Customer to specify)

### Pressure Class

1 =150  
 3 =300  
 6 =600  
 9 =900  
 15=1500  
 25=2500

### Type

1=Gate, OS&Y  
 2=Globe, OS&Y  
 3=Swing Check  
 4=Tilting Check  
 5=Non Return  
 6=Parallel Gate  
 7=Angle, OS&Y  
 8=Through Conduit Gate

### BODY/BONNET MATERIAL

CB =ASTM A216, WCB =Cast Carbon Steel  
 C5 =ASTM A217, C5 =Cast Alloy Steel(5% Chrome, 1/2% Moly)  
 C6 =ASTM A217, WC6 =Cast Alloy Steel(1 1/4% Chrome, 1/2% Moly)  
 C9 =ASTM A217, WC9 =Cast Alloy Steel(2 1/4% Chrome, 1% Moly)  
 C12 =ASTM A217, C12 =Cast Alloy Steel(9% Chrome, 1% Moly)  
 LCB =ASTM A352, LCB =Cast Low Temperature Carbon Steel  
 LC3 =ASTM A352, LC3 =Cast Low Temperature 31/2% Nickel Steel  
 CF8 =ASTM A351, CF8 =Cast 304 Stainless Steel  
 C8M =ASTM A351, CF8M =Cast 316 Stainless Steel  
 A20 =ASTM A351, CN7M =Cast Alloy 20  
 MO =ASTM A296, M35 =Cast NI CU(Monel\*\*)  
 SPL =Special(Customer to specify)

### SUFFIX LETTERS

BP=By-Pass  
 BS=Bellows Seal  
 CL=Chlorine Service  
 CR=Cryogenic Service  
 FP=Full Port  
 FS=Firesafe  
 GI=Grease Injection  
 GO=Gear Operator  
 HL=High Lift  
 HO=Hydraulic Operator  
 HP=Horizontal Piston Check  
 MO=Motor Operator  
 N1=Material to NACE MR-01-75  
 NR=Non-Return  
 OL=Outside Weight & Lever  
 OX=Oxygen Service  
 PD=Parabolic Disc  
 PO=Pneumatic Operator  
 PSB=Pressure Seal Bonnet  
 PT=PTFE Seats  
 RP=Regular Port

### Trim Materials

Trim Number	Nominal Trim	Material Type
1	F6	13Cr
2	304	18Cr - 8Ni
3	F310	25Cr - 20Ni
4	Hard F6	Hard 13Cr
5	Hardfaced	Co - Cr A
5A	Hardfaced	Ni - Cr
6	F6 and Cu-Ni	13Cr Cu - Ni
7	F6 and Hard F6	13Cr Hard 13Cr
8	F6 and Hardfaced	13Cr Co - Cr A
8A	F6 and Hardfaced	13Cr Ni - Cr
9	Monel**	Ni - Cu alloy
10	316	18Cr - 8Ni
11	Monel and Hardfaced	Ni - Cu alloy Trim 5 or 5A
12	316 and Hardfaced	18Cr - 8Ni Trim 6 or 5A
13	Alloy 20	19Cr - 29Ni
14	Alloy 20 and Hardfaced	19Cr - 29Ni Trim 5 or 5A

For End Connections, Body Materials and Trims not listed, please specify.

Please order by size, figure number(which specifies type), pressure class, end connections, materials and special features, as shown above.

SC=Stop-Check  
 SG=Solid Wedge, Gate  
 SL=Special Lining  
 SO=Safe-o-Seal Bonnet  
 ST=Socket Weld x Threaded  
 TD=Tilting Disc Check  
 TF=Teflon\* Insert  
 UB=Union Bonnet  
 VT=Viton\* Insert  
 WB=Welded Bonnet

\*Viton and Teflon are registered trademarks of DuPont Company.

\*\*Monel is a registered trademark of International Nickel Company.

# ABBREVIATIONS

<b>AARH</b>	Arithmetical Average Roughness Height	<b>PT</b>	Liquid Penetrant Test
<b>ASB</b>	Asbestos	<b>PTFE</b>	Poly Tetra Fluoro Ethylene
<b>BB</b>	Bolted Bonnet	<b>PVC</b>	Poly Vinyl Chloride
<b>BC</b>	Bolted Cap	<b>RF</b>	Raised Face
<b>BE</b>	Bevel End	<b>RS</b>	Rising Stem
<b>BG-1</b>	Bolted Gland	<b>RT</b>	Radiograph Test
<b>BG-2</b>	Bevel Gear	<b>RTJ</b>	Ring Type Joint
<b>BW</b>	Butt Weld	<b>SB</b>	Screwed Bonnet
<b>CL</b>	Class	<b>S.BOLT</b>	Stud Bolt
<b>EB</b>	Extension Bonnet	<b>SC</b>	Screwed Cap
<b>EC</b>	External Coating	<b>SCH</b>	Schedule
<b>EPDM</b>	Ethylene Propylene Diene Monomer	<b>SCRD</b>	Screwed
<b>FEP</b>	Fluorinated Ethylene Propylene	<b>SDNR</b>	Stem Down Non Return
<b>FF</b>	Flat Face	<b>SF.1</b>	Smooth Finish
<b>FLGD</b>	Flanged	<b>SF.2</b>	Stellite Facing
<b>HF.1</b>	Hard Facing	<b>SG</b>	Spur Gear
<b>HF.2</b>	HALF	<b>SMF</b>	Smooth Finish
<b>IC</b>	Internal Coating	<b>SMLS</b>	Seamless Product
<b>LB</b>	Long Bonnet	<b>STD</b>	Standard
<b>M. BOLT</b>	Machine Bolt	<b>STF</b>	Stock Finish
<b>MF</b>	Male & Female	<b>STL</b>	STELLITE
<b>MT</b>	Magnetic particle Test	<b>SW</b>	Socket Weld
<b>NRV</b>	Non Return Valve	<b>TFE</b>	Tetra Fluoro Ethylene
<b>NBR</b>	Nitrile or Buna-N Rubber	<b>TG</b>	Tongue & Groove
<b>NPT</b>	Nominal Pipe Thread	<b>UB</b>	Union Bonnet
<b>NRS</b>	Non Rising Stem	<b>UC</b>	Union Cap
<b>OCT</b>	Octagonal Ring Gasket	<b>UT</b>	Ultrasonic flaw detecting Test
<b>OS &amp; Y</b>	Outside Screw & Yoke	<b>WB</b>	Welded Bonnet
<b>OVAL</b>	Oval Ring Gasket	<b>WC</b>	Welded Cap
<b>PSB</b>	Pressure Seal Bonnet	<b>WG</b>	Worm Gear
<b>PC</b>	Pressure Seal Cover	<b>WN</b>	Welding Neck