

FORCETM

FORCE METAL INDUSTRIES

An ISO 9001 : 2015 CERTIFIED CO.



Stockist & Suppliers Of :

Ferrous & Non- Ferrous Metals Industrial Raw Material Etc.

Specialist in: Manufacturer of Stainless Steel Flat Bar, Angle Bar, Channel, Round Bar, Hex Bar, Sheets, Plates Coil, Etc.

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ABOUT US

Force Metal Industries is a trusted name in the metal industry, delivering premium quality metal products with precision, strength and reliability. With years of expertise and a commitment to excellence, we have built a reputation for providing durable solutions that meet the diverse needs of various industries.

Our mission is to provide top-quality metal products that ensure superior performance and long-lasting value. We focus on innovation, quality and customer satisfaction in every step of our process.

Driven by a customer-first approach and ethical business practices, we continue to grow and set new benchmarks in the industry.



OUR MISSION

To deliver high-quality metal products that exceed customer expectations through innovation, precision & reliability.



OUR VISION

To be a leading name in the metal industry, recognized for quality, trust and long-term relationships.



OUR VALUES

- Quality First
- Integrity & Transparency.
- Customer Satisfaction
- Innovation & Improvement
- Teamwork & Respect



WHY WE EXIST

We exist to empower industries with reliable, durable and precision-engineered metal products that contribute to a stronger, safer and more sustainable future

16+

YEARS OF EXPERIENCE



PREMIUM QUALITY

High-grade materials & strict quality control



STRONG & DURABLE

Products built to perform in the most demanding conditions.



WIDE RANGE OF PRODUCTS

A comprehensive range to meet every industrial need.



ON TIME DELIVERY

Timely supply and efficient logistics you can rely on



DEDICATED SUPPORT

Expert guidance and after-sales support at every step



CUSTOMER FOCUSED

We build long-term relationships based on trust and satisfaction

BUILT ON TRUST. DELIVERED WITH PRIDE

Thank you for choosing Force Metal Industries. We look forward to building a stronger future together



PIPE & TUBES

TYPE: Stainless Steel Pipe, Mild Steel Pipe, Carbon Steel Pipe (WELDED & SEAMLESS)

STAINLESS STEEL: ASTM A312 TP 304 / 304L / 316 / 316L, etc.

CARBON STEEL: ASTM A106 Grade A/B/C, ASTM A53 Grade A/B, ASTM A333 Grade 1/6, ASTM A672 Grade B60 / B70, ASTM A691 Grade 1Cr / 1¼Cr / 2¼Cr, API 5L Grade A/B, API 5L X42, X52, X60, X65, X70, IS 1239 (Part 1 & 2), IS 3589, IS 1978, EN 10216-2 P235GH, EN 10216-2 P265GH, DIN 17175 ST35 / St45, etc.

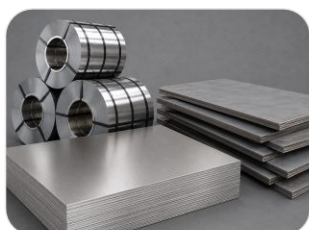
ALLOYS STEEL: ASTM A335 P1/P5/P9/P11/P12/P22/P91/P92, T2/T5/T9/T11/T12/T22/T91, EN 10216-2 P11 / P22, BS 3059 Grade 620 / 622, etc.

MILD STEEL: IS 1239 (Part 1 & 2), IS 3589

DIMENSION: ASME B36.19 (Stainless Steel) & ASME B36.10 (Carbon / Mild Steel)

SIZE: ERW: 1/4" NB to 24" NB & Seamless: 1/4" NB to 24" NB

THICKNESS: SCH 5, SCH 10, SCH 20, SCH 40, SCH 80, SCH 120, SCH 160, IS: A Class, B Class, C Class



SHEET / PLATE / COILS / CHEQUERED PLATE

STAINLESS STEEL: ASTM A240 / ASME SA240304 / 304L / 316 / 316L / 316Ti / 321 / 309 / 310 / 347 / 409 / 410 / 420 / 430 / 904L etc.

CARBON STEEL: ASTM A283 Grade C / D, ASTM A516 / ASME SA516 Grade 60 / 70, ASTM A517, IS 2062 E250 / E350, IS 2002 etc.

ALLOYS STEEL: ASTM A387 (Gr. 5 / 9 / 11 / 12 / 22), ASTM A204 (A / B / C), ASTM A517, EN 10028-2 (16Mo3 / 13CrMo4-5 / 10CrMo9-10), IS 2041 & IS 2002.

MATERIAL GRADE: Duplex Steel, Super Duplex Steel, Alloy Steel, Nickel Alloy, Titanium Alloy, Aluminium Alloy, Cupronickel Alloy etc.

TYPES: Sheets, Plates, Coils, Strips, Chequered Plates, Decorative / Designing Sheets, etc.



BUTTWELD FITTINGS

STAINLESS STEEL: ASTM A403 WP304 / 304L / 316 / 316L / 317 / 317L / 321 / 310 / 347 / 904L etc.

CARBON STEEL: ASTM A234 WPB, ASTM A420 WPL3 / WPL6, MSS SP-75, WPHY 42 / 46 / 52 / 56 / 60 / 65 / 70, etc.

ALLOY STEEL: ASTM A234 WP1 / 5 / 9 / 11 / 22 / 91, etc.

OTHERS: Monel, Nickel Alloy, Inconel, Hastelloy, Copper, Brass, Bronze, Titanium, Tantalum, Aluminium, Zinc, Lead etc.

TYPES: Elbow, Tee, Reducer (Concentric / Eccentric), Return Bend, Stub End, Cap, Collar, Cross etc.

SIZE: 1/4" NB to 32" NB (Seamless & Welded)

WALL THICKNESS: Schedule 5S to Schedule XXS.



FLANGES

STAINLESS STEEL: ASTM A182 F304 / F316 / F321 / F347 / F904L, etc.

CARBON STEEL: ASTM A105, ASTM A350 LF2 / LF3, ASTM A694 F42 / F46 / F52 / F60 / F65 / F70, etc.

ALLOY STEEL: ASTM A182 F11 / F22 / F91 / F5 / F9, etc.

OTHERS: Monel, Nickel, Inconel, Hastelloy, Copper, Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead, etc.

TYPES: Weldneck, Slip-On, Blind, Socket Weld, Lap Joint, Spectacle Blind, Ring Type Joint, Orifice, Long Weldneck, Deck Flange etc.

SIZE: 1/2" NB TO 48" NB.

CLASS: 150#, 300#, 400#, 600#, 900#, 1500#, 2500#, 3000# & 6000# Class & Others Flanges as per drawing.



VALVES

MATERIAL TYPE: Stainless Steel, Carbon Steel, Mild Steel, Cast Iron, Brass, Polymers, PP, PVC, HDPE, Teflon etc.

TYPE: Ball Valve, Globe Valve, Gate Valve, Non-Return Valve, Butterfly Valve, Swing Check Valve, Safety Valve, Strainer, DIN Globe Valve, DIN Non-Return Valve, Knife Gate Valve, Plug Valve, Piston Valve, Needle Valve, PP Valve etc.

THICKNESS / RATING: As per customer requirement / design specification.

SIZE: As per customer requirement.

BRIGHT BARS



Size Range: 5 mm-115 mm (3/16 inch 4-1/2 inch)

Supply Conditions

Length: Upto 6.5 meters

Cold Drawn, Centreless Ground, Peeled & Polished, Rough Peeled or Smooth Turned Bars

Tolerance: h7, h8, h9, h10, h11, k12, k13, ASTM A484
Surface Finish Ra upto 0.2 mm (8.7 RMS)

Straightness: upto 0.5 mm per metre

Grit Polish: K240, K320 or as per customer's requirement

Heat Treatment: Soft Annealing, Solution Annealing, Oil & Water Quenching, Tempering & Aging

Bars End Finish: Chamfered ends, 30°, 45°, 60° and Plain Ends without Burrs or Sharp Edges

Specifications: as per EN, DIN, JIS, ASTM, BS, ASME, GOST, AISI (NACE MR0175, MR0103)

Eddy current tested as per customers requirement

Free from Radioactive elements, Mercury & Lead contamination

Grade confirmation through PMI testing with Handheld Spectrometers

PRECISION SHAFT BARS



Size Range: 8 mm-81 mm (5/16 inch-33/16 inch)

Supply Conditions

Length: Upto 6.4 meters

Tolerance: h7, h8, h9, j6, 17, 18

Straightness: 0.015" TIR per 10 ft.

Heat Treatments: Soft Annealing, Solution Annealing, Quench & Tempered

Eddy current tested as per customer's requirement

Free from Radioactive elements, Mercury & Lead contamination

Grade confirmation through PMI testing with Handheld Spectrometers

HEXAGONAL BRIGHT BARS



Size Range: 16 mm - 55 mm (5/8 inch 2 1/6 inch)

Supply Conditions

Length: Upto 6 meters

Tolerance: h11, k12, k13, ASTM A484

Grit Polish as per customer's request

Heat Treatment Solution Annealed, Oil & Water Quenched / Tempered

Bars End Finish: Chamfered ends, 30°, 45°, 60°, and Plain Ends without Burrs or Sharp Edges

Specifications: as per EN, DIN, JIS, ASTM, BS, ASME, AISI, etc.

Free from Radioactive elements, Mercury & Lead contamination

Grade confirmation through PMI testing with Handheld Spectrometers

Black	Bright	Bright (inch)	Black	Bright	Bright (inch)	Black	Bright	Bright (inch)
16	15	3/5	25	24	15/16	40	38	1-1/2
17	16	5/8	26	25	1	42	40	1-4/7
18	17	2/3	27	26	1-3/127	43	42	1-2/3
19	18	5/7	28	27	1-1/16	45	43	1-45/64
20	19	3/4	30	28	1-1/8	47	45	1-4/5
21	20	4/5	32	30	1-3/16	53	50	2
22	21	5/6	34	32	1-1/4	55	52	2-1/16
23	22	7/8	36	34	1-3/8	57	55	2-1/6
24	23	-	38	36	1-3/7			

SQUARE BRIGHT BARS



Size Range: 12.70 mm 55 mm (1/2 inch - 2-1/6 inch)

Supply Conditions

Length: Upto 6 meters

Tolerance: h11, k12, k13, ASTM A484

Grit Polish as per customer's request

Heat Treatment: Solution Annealed, Oil & Water Quenched / Tempered

Bars End Finish: Deburred Ends, Plain Ends without Burrs or Sharp Edges

Specifications: As per EN, DIN, JIS, ASTM, BS, ASME, AISI, etc.

Free from Radioactive elements, Mercury & Lead contamination

Grade confirmation through PMI testing with Handheld Spectrometers

Black	Bright	Bright (inch)	Black	Bright	Bright (inch)	Black	Bright	Bright (inch)
14	12	1/2	24	23	-	40	38	1-1/2
14	12.7	1/2	25	24	15/16	42	40	1-4/7
16	14	5/9	26	25	1	43	41	1-5/8
16	15	3/5	27	26	1-3/127	45	43	1-45/64
18	16	5/8	28	27	1- 1/16	46	44	1-3/4
18	17	2/3	30	28	1-1/8	47	45	1-7/9
19	18	5/7	32	30	1-3/16	50	47	1-7/8
20	19	3/4	34	32	1-1/4	50	48	1-8/9
21	20	4/5	36	34	1-3/8	53	50	2
22	21	5/6	38	36	1-3/7	58	55	2-1/6
23	22	7/8						

FORGED PROOF MACHINED BARES



Size Range: 120 mm 550 mm (4-3/4 inch 21-2/3 inch)

Supply Conditions

Length: Upto 6 meters

Tolerance: ASTM A484, EN10060

Ultrasonic tested

Heat Treatment: Soft Annealed, Solution Annealed, Normalizing, Quenched & Tempered

Free from Radioactive elements, Mercury & Lead contamination

COLD DRAWN FLAT BARS



Supply Conditions

Length: 2 meters - 6 meters (8 feet to 20 feet)

Tolerance: h11 and ASTM A 484

Surface Finish: Cold Drawn and Pickled Condition

Heat Treatment: Solution Annealed

Grades: AISI: 304L, 316L, 316Ti, 321,
DIN: 1.4307, 1.4404, 1.4571, 1.4541

Inkjet printing as per grade & size

Free from Radioactive elements, Mercury & Lead contamination

Grade confirmation through PMI testing with Handheld Spectrometers

Size (mm)

20
25
30
40
50
60
64
70
80
100

Thickness (mm)

10, 12, 15
10, 12, 15, 20
8, 10, 12, 15, 20
8, 10, 12, 15, 20, 25, 30
10, 12, 15, 20, 25, 30, 40
10, 12, 15, 20, 30, 40
33
10, 20
10, 15, 20, 30
10, 12

Size (Inch)

4/5
1
1-3/16
1-4/7
2
2-3/8
2-1/2
2-3/4
3-1/7
4

Thickness (Inch)

2/5, 15/32, 3/5
2/5, 15/32, 3/5, 4/5
5/16, 2/5, 15/32, 3/5, 4/5
5/16, 2/5, 15/32, 3/5, 4/5, 1, 1-3/16
2/5, 15/32, 4/5, 3/5, 1, 1-3/16, 1-4/7
2/5, 15/32, 3/5, 4/5, 1-3/16, 1-4/7
1-2/7
2/5, 4/5
2/5, 15/32, 4/5, 1-3/16
2/5, 15/32

THREADED BARS



Size Range

M6-M 45
(1/4 inch-1-7/9 inch)

Grade

A2/304 (Class- 50, 70, 80)
B8/304 (Class-1 & 2)
A4/316 (Class- 50, 70, 80)
B8M/316 (Class-1 & 2)

Threading method

Thread Rolling

Threading condition

Fully Threaded

Thread Type

ANSI B1.1 Class 2A Fit

Length: Upto 6 meters

Tolerance: ASME B1.1 & B1.13 M

Applications

Fasteners, Construction,
Automotive, Fittings and
many others

Free from Radioactive
elements, Mercury & Lead
contamination

Grade confirmation through
PMI testing with Handheld
Spectrometers

DEFORMED BARS



Rolled Size:

16, 20, 25, 28, 32, 36, 40

Length: Upto 12 meters

Tolerance:

IS 16651, BS 6744

HRAP EQUAL ANGLES



Size (mm)	Thickness (mm)	Size (Inch)	Thickness (inch)
20X20	3	3/4 X 3/4	1/8
25X25	3, 4, 5, 6	1 X 1	1/8, 1/6, 3/16, 1/4
30X30	3, 4, 5	1-1/6 X 1-1/6	1/8, 1/6, 3/16
32X32	3, 4, 5, 6	1-1/4 X 1-1/4	1/8, 1/6, 3/16, 1/4
35X35	3, 4, 5	1-3/8 X 1-3/8	1/8, 1/6, 3/16
38.1X38.1	3.17, 4.76, 6.35	1-1/2 X 1-1/2	1/8, 3/16, 1/4
40X40	3, 4, 5, 6	1-4/7 X 1-4/7	1/8, 1/6, 3/16, 1/4
45X45	3, 4, 5, 6	1-7/9 X 1-7/9	1/8, 1/6, 3/16, 1/4
50X50	3, 4, 5, 6, 7, 8, 9, 10	2 X 2	1/8, 1/6, 3/16, 1/4, 9/32, 5/16, 3/8, 2/5
60X60	5, 6, 7, 8, 9	2-3/8 X 2-3/8	3/16, 1/4, 9/32, 5/16, 3/8
63X63	5, 6, 7, 8, 9, 10	2-1/2 X 2-1/2	3/16, 1/4, 9/32, 5/16, 3/8, 2/5
65X65	5, 6, 7, 8, 9	2-5/9 X 2-5/9	3/16, 1/4, 9/32, 5/16, 3/8
70X70	6, 7, 8, 9, 10	2-3/4 X 2-3/4	1/4, 9/32, 5/16, 3/8, 2/5
75X75	5, 6, 7, 8, 9, 10, 12	3 X 3	3/16, 1/4, 9/32, 5/16, 3/8, 2/5, 1/2
80X80	6, 7, 8, 9, 10	3-1/8 X 3-1/8	1/4, 9/32, 5/16, 3/8, 2/5
90X90	6, 9	3-1/2 X 3-1/2	1/4, 3/8
100X100	6, 8, 9, 10	4 X 4	1/4, 5/16, 3/8, 2/5
120X120	10, 12, 13, 15	4-3/4 X 4-3/4	2/5, 1/2, 64/125, 3/5
125X125	10, 12	4-15/16 X 4-15/16	2/5, 1/2
127X127	9, 12	5 X 5	3/8, 1/2

Supply Conditions

Length:

Upto 6.4 meters

Tolerance:

ASTM A484, EN10056

Heat treatment process:

Hot Rolled, Annealed & Pickled (HRAP)

Bars End Finish:

Deburred Ends, Plain Ends without Burrs or Sharp Edges

Specifications:

As per EN, DIN, JIS, ASTM, BS, ASME, etc.

Grit polish:

As per customer's request

Shot Blasting as per customer's request
Inkjet printing as per grade & size

Free from Radioactive elements,
Mercury & Lead contamination

Grade confirmation through PMI
testing with Handheld Spectrometers

HRAP UN-EQUAL ANGLES



Size (mm)	Thickness (mm)	Size (Inch)	Thickness (inch)
25x15	5	1 x 3/5	3/16
30x15	3	1-1/6 x 3/5	1/8
30x20	3, 4	1-1/6 x 4/5	1/8, 1/6
40x20	3, 4, 5, 6	1-4/7 x 4/5	1/8, 1/6, 3/16, 1/4
40x30	5, 6	1-4/7 x 1-1/6	3/16, 1/4
45x30	4, 5, 6	1-7/9 x 1-1/6	1/6, 3/16, 1/4
45x40	5	1-7/9 x 1-4/7	3/16
50x25	4, 5, 6	2 x 1	1/6, 3/16, 1/4
50x30	4, 5, 6	2 x 1-1/6	1/6, 3/16, 1/4
50x40	4, 5, 6	2 x 1-4/7	1/6, 3/16, 1/4
60x30	5, 6	2-3/8 x 1-1/6	3/16, 1/4
60x40	5, 6	2-3/8 x 1-4/7	3/16, 1/4,
70x50	6, 7	2-3/4 x 2	1/4, 9/32
75x40	6, 10	3 x 1-4/7	1/4, 2/5
76.2x38.1	6	3 x 1-1/2	1/4
76.2x50.8	6, 9	3 x 2	1/4, 3/8
80x40	6, 8	3-1/8 x 1-4/7	1/4, 5/16
80x65	8	3-1/8 x 2-5/9	5/16
90x60	6	3-1/8 x 2-3/8	1/4
100x50	6, 8, 10	4 x 2	1/4, 5/16, 2/5
100x75	6, 9, 10	4 x 3	1/4, 3/8, 2/5

CONTINUOUS CAST BILLETS / BLOOMS



Supply Conditions

Length: Upto 8.5 meters

Saw end cuts

Marked with Heat number, Grade, Size & Weight

Applications

Rolling, Hot Forging and Ring Rolling

Free from Radioactive elements, Mercury & Lead contamination

Grade confirmation through PMI testing with Handheld Spectrometers

Spot ground or fully ground condition (as per request)

Suitable for Forging, Rolling, Ring Rolling & Up-setting

Size (mm)	Shape	Weight (Kg/Mtr)	Size (mm)	Shape	Weight (Kg/Mtr)
100	Square	78	150	Round	140
120	Square	114	200	Round	246
130	Square	130	250	Round	385
140	Square	154	300	Round	560
160	Square	200	220 X 250	Rectangular	428
200	Square	314	190 X 130	Rectangular	192
240 X 240	Square	452	280 X 140	Rectangular	305
300 X 300	Square	706	300 X 160	Rectangular	375

CHANNELS



Length

-Upto 6.4 meters

Supply condition

- HRAP

Deburred ends or plain ends

Inkjet printing as per grade & size

Tolerance

- EN 10279

Size (mm)

1016x44.45x6.35

1016x50.8x6.35

100x50x5x5

100x50x6x6

80x40x6x6

80x40x5x5

75x40x6x6

75x40x5x5

50x25x5x5

NON - TAPER Size

Size (inch)

4 x 1 x 1/4

4 x 2 x 1/4

4 x 2 x 1/5 x 1/5

4 x 2 x 1/4 x 1/4

3-1/7 x 1-4/7 x 1/4 x 1/4

3-1/7 x 1-4/7 x 1/4 x 1/4

3 x 1-4/7 x 1/4 x 1/4

3 x 1-4/7 x 1/5 x 1/5

2 x 1 x 1/5 x 1/5

TAPER Size

Size (mm)

1016x40.23x4.76x7.52

1016x43.71x8.15x7.52

100x50x6x8.5

65x42x5.5x7.5

Size (inch)

4 x 1-3/5 x 3/16 x 2/7

4 x 1-5/7 x 1/3 x 2/7

4 x 2 x 1/4 x 1/3

2-5/9 x 1-2/3 x 2/9 x 2/7

Size (mm)

50x38x5x7

50x25x3x3.3

50x25x5x6

Size (inch)

2 x 1-1/2 x 1/5 x 2/7

2 x 1 x 1/8 x 1/8

2 x 1 x 1/5 x 1/4

DUPLEX STEELS



Applications

Structural Design Components

Storage and Exchange Equipment

(High Pressure, Saline applications)

Heat Exchanger

Aerospace, Pulp and Paper Industry

Duplex stainless steels are called "duplex" because they have a two-phase microstructure consisting of phases of ferritic and austenitic stainless steel.

This structure provides a unique set of benefits.

Strength

Duplex stainless steels are about twice as strong as regular austenitic or ferritic stainless steel.

Corrosion Resistance

As with all stainless steels, corrosion resistance depends mostly on the composition of the stainless steel.

The composition of this steel makes it better at resisting corrosion.

Toughness and Ductility

Duplex stainless steel has significantly better toughness and ductility than ferritic grades.

PREN VALUES

Steel Grade	PREN	Steel Grade	PREN
14307	18	14462	31
14404	24	2205	35

MECHANICAL PROPERTIES

Grade No.	Yield Strength (Rp 0.2%) (Min) (Mpa)	UTS (Mpa) (Min)	UTS (Mpa) (Max)	% Elongation (Min)	% Reduction Area (Min)	Hardness (BHN) (Max)
14462	450	650	880	25	-	270
UNS S31803	448	620	-	25	-	290
UNS S32205	450	655	-	25	-	290
14362	400	600	830	25	-	260
14460	450	620	880	20	-	260

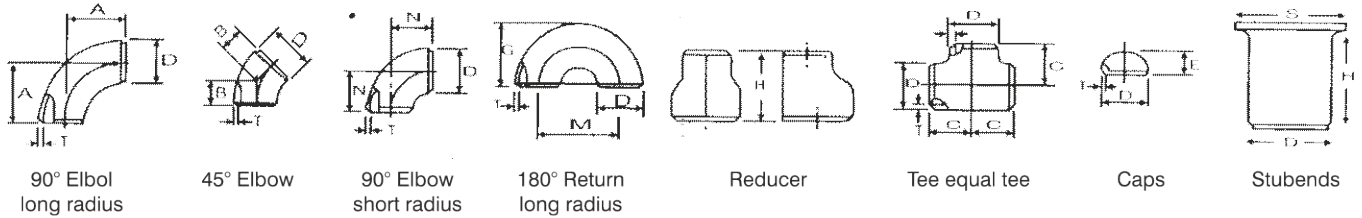
CHEMICAL COMPOSITION

Standard	Grade	C%	Si%	Mn%	P %	S %	Cr %	Mo %	Ni (Max)	Cu%	N2 (Max)
ASTM A 182	F-51	0.03	1	2	0.02	0.02	21-23	2.5-3.5	45-6.5		0.08-0.2
ASTM A 182	F-60	0.03	1	2	0.02	0.02	22-23	3.0-3.5	45-6.5		0.14-0.2
ASTM A 182	F-53	0.03	0.8	12	0.02	0.02	24-26	3-5	6.0-8.0	0.5	0.24-0.32
ASTM A 276	UNS S32205	0.03	1	2	0.02	0.02	22-23	3.0-3.5	45-6.5		0.14-0.2
ASTM A 276	UNS S31803	0.03	1	2	0.02	0.02	21-23	2.5-3.5	45-6.5		0.08-0.20
ASTM A 240	UNS S32750	0.03	0.8	12	0.02	0.02	24-26	3-5	6.0-8.0	0.5	0.24-0.32
DIN EN 10088-3	14462	0.03	1	2	0.015	0.015	21-23	2.5-3.5	45-6.5		0.1-0.22
DIN EN 10088-3	14460	0.05	1	2	0.03	0.03	25-28	1.3-2.0	45-6.5		0.05-0.2
EN 10095	14821	0.1-0.2	0.8-1.5	2	0.015	0.015	24.5-26.5		3.5-5.5		0.11
DIN EN 10088-3	14410	0.03	1	2	0.015	0.015	24-26	3.0-4.5	6.0-8.0		0.24-0.35
90026-0	14362	0.03	10	2.0	0.015	0.015	22-24.5	0.1-0.6	3.5-5.5	0.1-0.6	0.05-0.2

PIPE SIZE CHART

NPS	DN	OD	SCH 5S	SCH 5	SCH 10S	SCH 10	SCH 20	SCH 30	STD WT	SCH 40S			SCH 40	SCH 60	SCH XS	SCH 80S	SCH 80	SCH 100	SCH 120	SCH 140	160 SCH	XXS SCH
1/8	6	10.29	-	-	1.24	1.24	-	1.45	1.73	1.73			1.73	-	2.41	2.41	2.41	-	-	-	3.15	4.83
1/4	8	13.72	-	-	1.65	1.65	-	1.85	2.24	2.24			2.24	-	3.02	3.02	3.02	-	-	-	3.68	6.05
3/8	10	17.14	-	-	1.65	1.65	-	1.85	2.31	2.31			2.31	-	3.20	3.20	3.20	-	-	-	4.01	6.40
1/2	15	21.34	1.65	1.65	2.11	2.11	-	2.41	2.77	2.77			2.77	-	3.73	3.73	3.73	-	-	-	4.78	7.47
3/4	20	26.67	1.65	1.65	2.11	2.11	-	2.41	2.87	2.87			2.87	-	3.91	3.91	3.91	-	-	-	5.56	7.82
1	25	33.40	1.65	1.65	2.77	2.77	-	2.90	3.38	3.38			3.38	-	4.55	4.55	4.55	-	-	-	6.35	9.09
1.1/4	32	42.16	1.65	1.65	2.77	2.77	-	2.97	3.56	3.56			3.56	-	4.85	4.85	4.85	-	-	-	6.35	9.70
1.1/2	40	48.26	1.65	1.65	2.77	2.77	-	3.18	3.68	3.68			3.68	-	5.08	5.08	5.08	-	-	-	7.14	10.16
2	50	60.32	1.65	1.65	2.77	2.77	-	3.18	3.91	3.91			3.91	-	5.54	5.54	5.54	-	-	-	8.74	11.07
2.1/2	65	73.02	2.11	2.11	3.05	3.05	-	4.78	5.16	5.16			5.16	-	7.01	7.01	7.01	-	-	-	9.52	14.02
3	80	88.90	2.11	2.11	3.05	3.05	-	4.78	5.49	5.49			5.49	-	7.62	7.62	7.62	-	-	-	11.13	15.24
3.1/2	90	101.60	2.11	2.11	3.05	3.05	-	4.78	5.74	5.74			5.74	-	8.08	8.08	8.08	-	-	-	-	-
4	100	114.30	2.11	2.11	3.05	3.05	-	4.78	6.02	6.02			6.02	-	8.56	8.56	8.56	-	11.13	-	13.49	17.12
5	125	141.30	2.77	2.77	3.40	3.40	-	-	6.55	6.55			6.55	-	9.52	9.52	9.52	-	12.70	-	15.88	19.05
6	150	168.28	2.77	2.77	3.40	3.40	-	-	7.11	7.11			7.11	-	10.97	10.97	10.97	-	14.27	-	18.26	21.95
8	200	219.08	2.77	2.77	3.76	3.76	6.35	7.04	8.18	8.18			8.18	10.31	12.70	12.70	12.70	15.09	18.26	20.62	23.01	22.22
10	250	273.0	3.40	3.40	4.19	4.19	6.35	7.80	9.27	9.27			9.27	12.70	12.70	12.70	12.70	15.09	18.26	21.44	25.40	25.40
12	300	323.8	3.96	3.96	4.57	4.57	6.35	8.38	9.52	9.52			10.31	14.27	12.70	12.70	12.70	17.48	21.44	25.40	28.58	33.32
14	350	355.6	3.96	3.96	4.78	6.35	7.92	9.52	9.52	9.52			11.13	15.09	12.70	12.70	12.70	19.05	23.83	27.79	31.75	35.71
16	400	406.4	4.19	4.19	4.78	6.35	7.92	9.52	9.52	9.52			12.70	16.66	12.70	12.70	12.70	21.44	26.19	30.96	36.53	40.49
18	450	457.2	4.19	4.19	4.78	6.35	7.92	11.13	9.52	9.52			14.27	19.05	12.70	12.70	12.70	23.83	29.36	34.92	39.67	45.24
20	500	508.0	4.78	4.78	5.54	6.35	9.52	12.70	9.52	9.52			15.09	20.62	12.70	12.70	12.70	26.19	32.54	38.10	44.45	50.01
22	550	558.8	4.78	4.78	5.54	6.35	9.52	12.70	9.52	-			-	22.22	12.70	-	28.58	34.92	41.28	47.62	53.98	-
24	600	609.6	5.54	5.54	6.35	6.35	9.52	14.27	9.52	9.52			17.48	24.61	12.70	12.70	30.96	38.89	46.02	52.37	59.54	-
26	650	660.4	-	-	-	7.92	12.70	-	9.52	-			-	-	12.70	-	-	-	-	-	-	-
28	700	711.2	-	-	-	7.92	12.70	15.88	9.52	-			-	-	12.70	-	-	-	-	-	-	-
30	750	762.0	6.35	6.35	7.92	7.92	12.70	15.88	9.52	-			-	-	12.70	-	-	-	-	-	-	-
32	800	813	-	-	-	7.92	12.70	15.88	9.52	-			17.48	-	12.70	-	-	-	-	-	-	-
34	850	864	-	-	-	7.92	12.70	15.88	9.52	-			17.48	-	12.70	-	-	-	-	-	-	-
36	900	914	-	-	-	7.92	12.702	15.88	9.52	-			19.05	-	12.70	-	-	-	-	-	-	-
38	950	965	-	-	-	-	-	-	9.52	-			-	-	12.70	-	-	-	-	-	-	-
40	1000	1016	-	-	-	-	-	-	9.52	-			-	-	12.70	-	-	-	-	-	-	-
42	1050	1067	-	-	-	-	-	-	9.52	-			-	-	12.70	-	-	-	-	-	-	-
44	1100	1118	-	-	-	-	-	-	9.52	-			-	-	12.70	-	-	-	-	-	-	-
46	1150	1168	-	-	-	-	-	-	9.52	-			-	-	12.70	-	-	-	-	-	-	-
48	1200	1219	-	-	-	-	-	-	9.52	-			-	-	12.70	-	-	-	-	-	-	-
52	1300	1321	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-
56	1400	1422	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-

BUTT WELDING PIPE FITTING DIMENSIONAL STANDARD ANSI B-1 6.9, B-16.28



Nominal Pipe Size		Outside Diameter	Centre to Face				Back to Face			Centre to Centre			Length "L" MSSSP43 B16.9	
Inch	mm	D	A	B	C	N	E	F	G	R	M	S	L	L
1/2	15	21.3	19.00	16.0	25.0	-	25.0	48.0	-	76.0	-	35.0	50.8	76.2
3/4	20	26.7	29.00	11.0	29.0	-	25.0	43.0	-	57.0	-	43.0	50.8	76.2
1	25	33.4	38.00	22.0	38.0	25.0	38.0	56.0	41.0	76.0	51.0	51.0	50.8	101.6
1 1/4	32	42.2	48.00	25.0	48.0	32.0	38.0	70.0	52.0	95.0	64.0	64.0	50.8	101.6
1 1/2	40	48.3	57.15	29.0	57.0	38.0	38.0	83.0	62.0	114.0	67.0	73.0	50.8	101.6
2	50	60.3	76.00	35.0	64.0	51.0	38.0	106.0	81.0	152.0	102.0	93.0	63.5	152.4
2 1/2	65	73.0	95.25	44.0	76.0	64.0	38.0	132.0	100.0	191.0	127.0	105.0	63.5	152.4
3	80	88.9	114.30	51.0	86.0	76.0	51.0	159.0	121.0	229.0	152.0	127.0	63.5	152.4
3 1/2	90	101.6	133.35	57.0	95.0	89.0	64.0	184.0	140.0	267.0	178.0	140.0	76.2	152.4
4	100	114.3	152.0	63.0	105.0	102.0	64.0	210.0	159.0	305.0	203.0	157.0	76.2	152.4
5	125	141.3	190.0	79.0	123.0	127.0	76.0	262.0	197.0	381.0	254.0	186.0	76.2	203.2
6	150	168.3	229.0	95.0	143.0	152.0	89.0	313.0	237.0	457.0	305.0	216.0	88.9	203.2
8	200	219.1	305.0	127.0	178.0	203.0	102.0	414.0	313.0	610.0	406.0	270.0	101.6	203.2
10	250	273.1	381.0	159.0	216.0	254.0	127.0	515.0	391.0	762.0	508.0	324.0	127.0	254
12	300	323.9	457.0	190.0	254.0	303.0	152.0	619.0	467.0	914.0	610.0	381.0	152.4	254
14	350	355.6	533.0	222.0	279.0	356.0	165.0	711.0	533.0	1067.0	711.0	413.0	152.4	305.0
16	400	406.4	610.0	254.0	305.0	406.0	178.0	813.0	610.0	1219.0	813.0	470.0	152.4	305.0
18	450	457.2	686.0	286.0	343.0	457.0	203.0	914.0	686.0	1372.0	914.0	533.0	152.4	305.0
20	500	508.0	762.0	318.0	381.0	508.0	229.0	1016.0	762.0	1524.0	1016.0	584.0	152.4	305.0
22	550	559.	838.0	343.0	419.0	559.0	254.0	1118.0	838.0	1676.0	1118.0	614.40	152.4	305.0
24	600	610.0	914	381.0	432.0	610.0	267.0	1219.0	914.0	1829.0	1219.0	692.0	152.4	305.0
26	650	660.0	991.0	406.0	495.0	660.0	267.0							
28	700	711.0	1067.0	438.0	521.0	771.0	267.0							
30	750	762.0	1143.0	470.0	559.0	762.0	267.0							
32	800	813.0	1219.0	502.0	597.0	813.0	267.0							
34	850	864.0	1295.0	533.0	635.0	864.0	267.0							
36	900	914.0	1372.0	565.0	673.0	914.0	267.0							

INDUSTRIAL VALVES

GLOBE VALVE



BS 5352 / BS 6755 / BS 1873 / BS 6755

ASME B 16.34 DIN 3356

STAINLESS STEEL (BAR STOCK)

RATING : 150# / 300 #

SIZE : 8 MM TO 100 MM

FORGED CARBON STEEL / S. STEEL

RATING : 150# / 300 # / 800 # / 1500 #

SIZE : 15 MM TO 400 MM

CAST CARBON STEEL / S. STEEL, ALLOY STEEL

RATING : 150# / 300 # / 600 # / 900 #

SIZE : 15 MM TO 400 MM

CAST IRON

RATING : 125# / 150 #

SIZE : 25 MM TO 600 MM

	FORGED RANGE	CAST IRON
DESIGN (MFG.) STD.	BS 5352	BS 1873 / DIN 3356
TEST (INSPECTION) STD.	BS 6755	BS 6755

NON RETURN VALVE

STAINLESS STEEL (BAR STOCK)

RATING : 150# / 300 #

SIZE : 8 MM TO 100 MM

FORGED CARBON STEEL / S. STEEL

RATING : 150# / 300 # / 800 # / 1500 #

SIZE : 15 MM TO 400 MM

CAST CARBON STEEL / S. STEEL, ALLOY STEEL

RATING : 150# / 300 # / 600 # / 900 #

SIZE : 15 MM TO 400 MM

CAST IRON

RATING : 125 / 150 #

SIZE : 25 MM TO 600 MM

	FORGED RANGE	CAST IRON
DESIGN (MFG.) STD.	BS 5352	BS 1873 / DIN 3356
TEST (INSPECTION) STD.	BS 6755	BS 6755

SPHERICAL DISC VALVE

BODY & DISC : CF8/CF8M/C.I. / WCB
SEAT : PTFE (Available EPDM Metal to Metal)

GLAND : PTFE
BEARING : PTFE
OPER. TEMP. : -50°C to 38°C
-50°C to 220°C (Soft Seat)
-50°C to 600°C (M to M)

HANDLE : M.S. / S. STEEL
PLATE MOUNTING : NAMUR / STANDARD
OPERATION : HAND LEVER TYPE
WORM GEAR BOX

TYPE : PNEUMATIC ACTUATED
ELECTRICAL ACTUATED

SIZE : 40 MM TO 900 MM



DIN GLOBE VALVE

BS 6755 / BS 1873 / ASME B 16.34 / DIN 3356

CAST CARBON STEEL / S. STEEL

RATING : PN 40 / PN 64

SIZE : 25 MM TO 300 MM

DESIGN STD : BS 1873 / DIN 3356

TEST (INSPECTION) STD : BS 6755

CAST IRON

RATING : PN 10 / PN 16

SIZE : 15 MM TO 250 MM



GATE VALVE

STAINLESS STEEL (BAR STOCK)

RATING : 150# / 300 #

SIZE : 8 MM TO 100 MM

FORGED CARBON STEEL / S. STEEL

RATING : 150# / 300 # / 800 # / 1500 #

SIZE : 15 MM TO 400 MM

CAST CARBON STEEL / S. STEEL, ALLOY STEEL

RATING : 150# / 300 # / 600 # / 900 #

SIZE : 25 MM TO 600 MM

CAST IRON

RATING : 125# / 150 #

SIZE : 25 MM TO 600 MM



	FORGED RANGE	CAST IRON
PRESS / TEMP. RATING	ANSI 16.34 / API 6 D	ANSI 16.34
DESIGN (MFG.) STD.	API 602 / BS 5352	API 600 / API 6D
TEST (INSPECTION) STD.	API 598 BS 6755	AI 598 / API 6D

BUTTERFLY VALVE

API 609 / BS 5155 / IS 13095 / CAST IRON

OPERATING : LEVER / MANUAL GEAR

DESIGN : SURE SEAL / REPLACEABLE

RUBBER LINING

ENDS : WAFER TYPE / DOUBLE FLANGE

SIZE : LUG TYPE

DESIGN : 40 MM TO 500 MM

OPERATION : OFFSET DISC

SIZE : LEVER / GEAR (ISI MARKED)

350 MM TO 1200 MM

CAST CARBON STEEL

DESIGN : SURE SEAL / REPLACEABLE

ENDS : RUBBER LINING

SIZE : WAFER TYPE

40 MM TO 500 MM

STAINLESS STEEL

DESIGN : OFFSET DISC

OPERATION : LEVER / MANUAL / GEAR

ENDS : WAFER TYPE

SIZE : 40 MM TO 800 MM

Mfg. STD : BS 5155 / AWWA C 504 API 609 /

IS 13095

TEST STD : BS 6155 / BS 6755



STRAINER

CAST CARBON STEEL / S. STEEL

DESIGN : Y-TYPE (PN 40 / DIN 3356 / BS 1873)

SIZE : 15 MM TO 300 MM

STAINLESS STEEL

DESIGN : Y-TYPE (150#)

ENDS : SCREWED / SOCKET WELD

SIZE : 15 MM TO 80 MM

CAST IRON

DESIGN : Y-TYPE (150#)

ENDS : SCREWED / FLANGED

SIZE : 15 MM TO 300 MM

DESIGN : POT TYPE

ENDS : FLANGED

SIZE : 40 MM TO 300 MM

DESIGN : T-TYPE (DIRT BOX)

ENDS : FLANGED

SIZE : 25 MM TO 300 MM



DIN NON RETURN VALVE

CAST CARBON STEEL S. STEEL / ALLOY STEEL

RATING : PN 40 / PN 64

SIZE : 15 MM TO 300 MM

CAST IRON

RATING : PN 10 / PN 16

SIZE : 15 MM TO 250 MM

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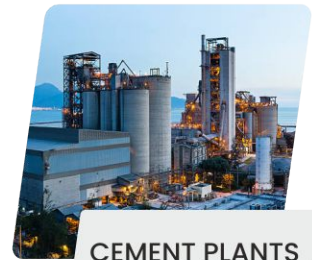
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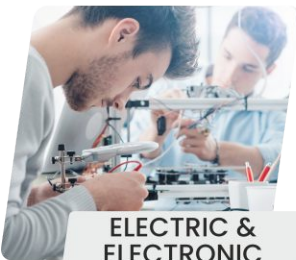
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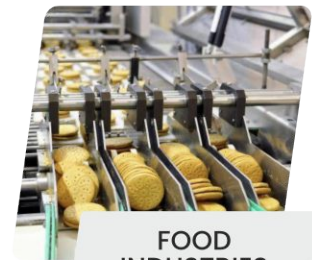
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