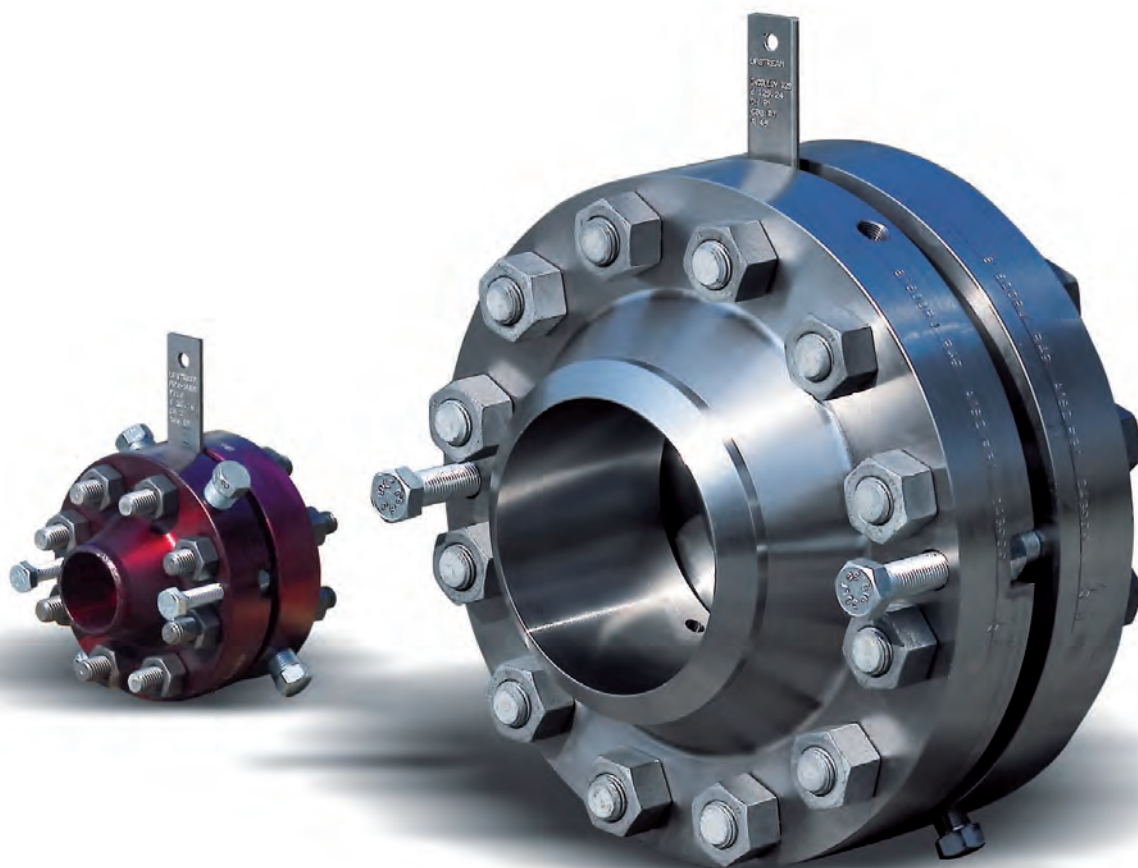


DISPOSITIVI DI MISURA PORTATA - SEZIONE 1.1
FLOW ORIFICE METERS - SECTION 1.1



FLANGE TARATE ANSI PER MISURE DI PORTATA
FLANGE TAPS ANSI STD. FOR FLOW MEASUREMENT

Esecuzione	Execution
in accordo a ANSI B16.36	In accordino to ANSI B16.36
Tipo	Type
WN Saldare di testa	WN Welding neck
SO Sovrapposizione	SO Slip-on
Altri tipi a richiesta	Other type on request
Accoppiamento	Facing
RF Faccia a risalto	RF Raised face
RJ Ring joint	RJ Ring joint
Altri tipi a richiesta	Other type on request
Pressioni nominali	Rating
ANSI 300 - 600 - 900 - 1500 - 2500	ANSI 300 - 600 - 900 - 1500 - 2500
Materiale	Material
A105 - A350 LF2 - A182 F316 - A182 F304	A105 - A350 LF2 - A182 F316 - A182 F304
Altri materiali a richiesta	Other material on request
Prese di pressione	Pressure taps
Quantità 2 (Standard)	Quantity 2 (Standard)
Dimensione 1/2" (ANSI 300-600)	Size 1/2" (ANSI 300-600)
3/4" (ANSI 900-1 500-2500)	3/4" (ANSI 900-1 500-2500)
Orientamento 180° (Standard)	Position 180° (Standard)
Tappi	Plugs
Tappo a testa esagonale per ogni presa di pressione	Hexagonal head plug for each pressure taps
Dadi e tiranti	Stud bolts and hex.nuts
Tiranti in A 193 B7 e dadi in A 194 2H ad alta resistenza montati come standard. Altri materiali a richiesta	Stud bolts mat. A193 B7 and heavy hexagonal nuts mat. A194 2H as standard. Other material on request
Guarnizioni	Gasket
Su richiesta si forniscono guarnizioni piane o spirometalliche	On request, we can supply plane or spirotallic gasket
Foglio di calcolo	Calculation sheet
Su richiesta vengono eseguiti i calcoli per la determinazione del foro calibrato	On request, we calculate orifice bore diameter

MISURE DI PORTATA DI LIQUIDI, GAS E VAPORI IN TUBAZIONE FLOW METERING IN PIPELINE OF LIQUID, GAS AND STEAM

Uno dei principali metodi per misurare la portata di un fluido, un gas o un vapore all'interno di una tubazione, consiste nell'inserirvi un dispositivo che provochi una caduta di pressione.

La misura di questa pressione differenziale, effettuata tra monte e valle del dispositivo, in funzione della velocità e dalla densità del fluido, ci permette di determinare la portata del fluido.

I dispositivi primari più comunemente usati per provocare questa differenza di pressione sono i seguenti:

Diaframmi calibrati inseriti tra flange:

- diaframma concentrico a spigolo vivo,
- diaframma a quarto di cerchio,
- diaframma ad ingresso conico,
- diaframmi a foro eccentrico o segmentale

Boccagli

Tubi Venturi

One of the principal methods for measure the flow of a fluid, a gas, a steam inside a pipeline, consists of insert a device, that cause a fall of pressure.

The measurement of this difference of pressure, effected between upstream and downstream of the device, in function of the speed and of the density of the fluid, allows us to calculate the flow in the pipeline.

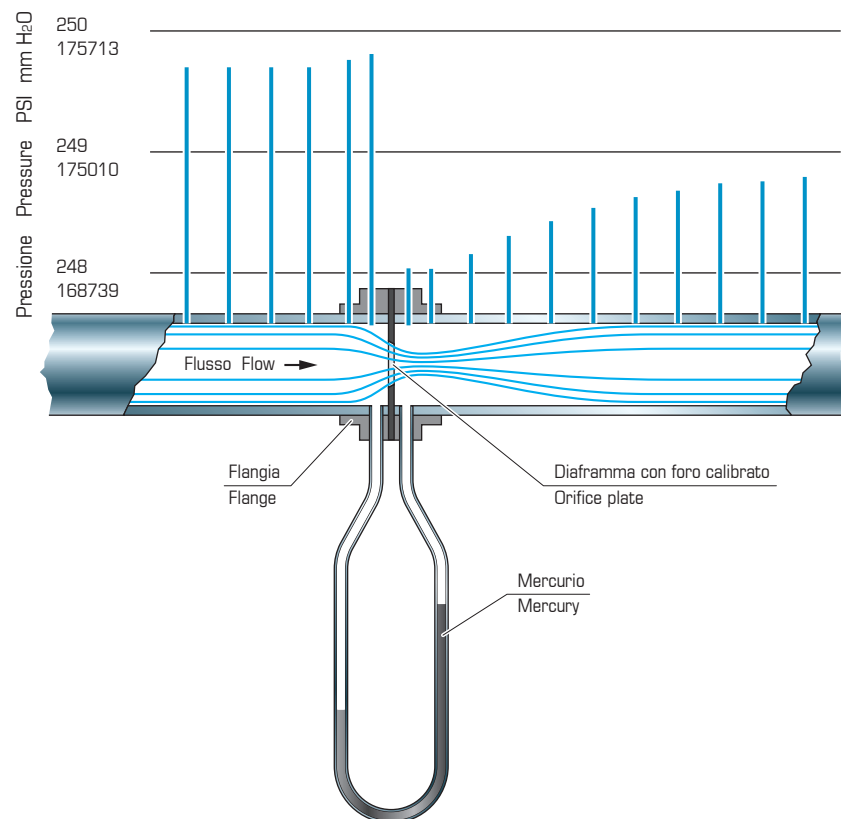
The primary devices, more commonly used for cause this difference of pressure are the followings:

Calibrated orifices inserted between flanges:

- Square edge concentric orifice plates,
- Quarter circle orifice plates,
- Conical entrance orifice plates,
- Eccentric or segmental orifice plates.

Nozzles

Venturi Tubes



FLANGE TARATE A SOVRAPPOSIZIONE
SLIP ON ORIFICE FLANGES

Costruzione flange in accordo alle normative ANSI B16.5 - ANSI B16.36 ed alle indicazioni dell'AGA (American Gas Ass.).

Il gruppo di misura è fornito completo di:

- diaframma calibrato
- n. 2 tappi sulle prese di pressione
- n. 2 bulloni estrattori
- tiranti in ASTM A193-B7
- dadi in ASTM A194-2H

Principali materiali impiegati

Flange: Acciaio carbonio, Acciai legati, AISI 316, AISI 304.

Diaframmi: AISI 316, AISI 304, Monel, Hastelloy C, ecc.

Guarnizioni: a richiesta in Fibra Aramidica, Spirotalliche, ecc.

Manufactured according to standard ANSI B16.5 - ANSI B16.36 and AGA (American Gas Association) directives.

Orifice meter will supplied with:

- orifice plate
- n. 2 plugs
- n. 2 jack screw
- stud bolts in ASTM A1 93-B7
- nuts ASTM A1 94-2H

Main material used:

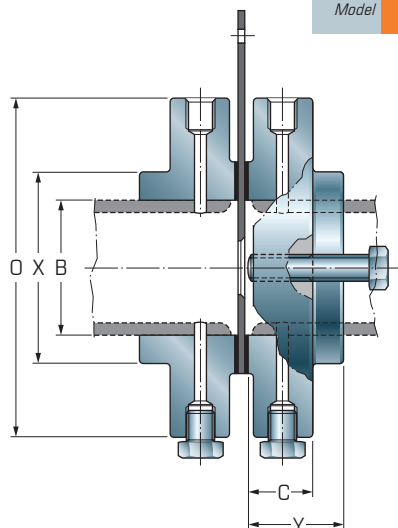
Orifice meter: Carbon steel, Alloy steel, AISI 316, AISI 304

Orifice plates: AISI 316, AISI 304, Monel, Hastelloy C, etc.

Gasket: On demand Aramidic Fiber, Spiralwound, ecc.

Modello
Model

RF-SO



ANSI 600 RF SO						
DN Size	O mm	C mm	Y mm	X mm	A mm	Peso kg. Weight kg
1"	124	38,1	48,0	54	34,9	7,5
1" 1/2	156	38,1	48,0	70	50,0	9,3
2"	165	38,1	49,0	84	61,9	11,5
2" 1/2	190	38,1	51,0	100	74,6	15
3"	210	38,1	52,5	118	90,5	19
4"	273	44,5	60,3	152	115,9	42
5"	330	50,8	66,7	189	143,7	70
6"	356	54,0	73,0	222	170,6	91
8"	418	62,0	82,5	273	221,5	127
10"	508	70,0	92,0	343	276,2	200
12"	559	73,0	98,5	400	327,0	248

ANSI 900 RF SO						
DN Size	O mm	C mm	Y mm	X mm	A mm	Peso kg. Weight kg
1"	149	41,3	54,0	52	34,9	13
1" 1/2	178	41,3	54,0	70	50,0	22
2"	216	44,5	64,0	105	61,9	31
2" 1/2	244	47,6	70,0	124	74,6	45
3"	241	44,5	60,0	127	90,5	37
4"	292	50,8	76,0	159	115,9	64
5"	349	57,2	86,0	191	143,7	96
6"	381	61,9	92,0	235	170,6	120
8"	470	69,9	108,0	298	221,5	191
10"	546	76,2	114,0	368	276,2	272
12"	610	85,7	124,0	419	327,0	359

ANSI 300 RF SO						
DN Size	O mm	C mm	Y mm	X mm	A mm	Peso kg. Weight kg
1"	124	38,1	48,0	54	34,9	7,5
1" 1/2	156	38,1	48,0	70	50,0	9,3
2"	165	38,1	49,0	84	61,9	11,5
2" 1/2	190	38,1	51,0	100	74,6	15
3"	210	38,1	52,5	118	90,5	19
4"	254	38,1	54,0	146	115,9	29
5"	279	38,1	54,0	178	143,7	34
6"	318	38,1	54,0	206	170,6	50
8"	381	41,3	62,0	260	221,5	65
10"	444	47,6	67,0	321	276,2	91
12"	521	50,8	73,0	375	327,0	133
14"	584	54,0	76,0	425	360,0	177
16"	647	57,0	82,5	482	411,0	240
18"	711	60,5	89,0	533	462,0	323
20"	774	63,5	95,0	587	513,0	360
24"	914	70,0	106,5	702	614,0	555

ANSI 1500 RF SO						
DN Size	O mm	C mm	Y mm	X mm	A mm	Peso kg. Weight kg
1"	149	41,3	54,0	52	34,9	13
1" 1/2	178	41,3	54,0	70	50,0	22
2"	218	44,5	64,0	105	61,9	31
2" 1/2	244	47,6	70,0	124	74,6	45
3"	267	54,0	79,0	133	90,5	59
4"	311	60,3	97,0	162	115,9	86
5"	375	79,4	111,0	197	143,7	151
6"	394	88,9	126,0	229	170,6	188
8"	483	98,4	149,0	292	221,5	291
10"	584	114,3	165,0	368	276,2	496
12"	673	130,2	187,0	451	327,0	765

FLANGE TARATE A SALDARE DI TESTA
WELDING NECK ORIFICE FLANGES

Costruzione flange in accordo alle normative ANSI B16.5 - ANSI B16.36 ed alle indicazioni dell'AGA (American Gas Ass.).

Il gruppo di misura è fornito completo di:

- diaframma calibrato
- n. 2 tappi sulle prese di pressione
- n. 2 bulloni estrattori
- tiranti in ASTM A193-B7
- dadi in ASTM A194-2H

Principali materiali impiegati

Flange: Acciaio carbonio, Acciai legati, AISI 316, AISI 304.

Diaframmi: AISI 316, AISI 304, Monel, Hastelloy C, ecc.

Guarnizioni: a richiesta in Fibra Aramidica, Spirotalliche, ecc.

Manufactured according to standard ANSI B16.5 - ANSI B16.36 and AGA (American Gas Association) directives.

Orifice meter will supplied with:

- orifice plate
- n. 2 plugs
- n. 2 jack screw
- stud bolts in ASTM A1 93-B7
- nuts ASTM A1 94-2H

Main material used:

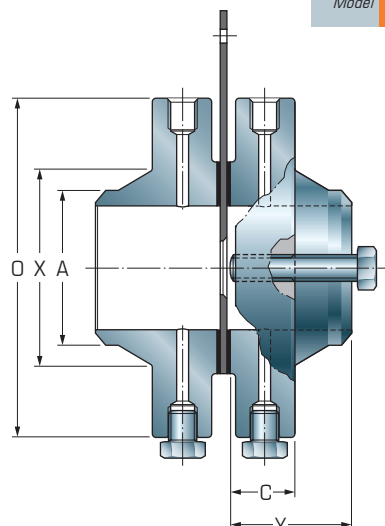
Orifice meter: Carbon steel, Alloy steel, AISI 316, AISI 304

Orifice plates: AISI 316, AISI 304, Monel, Hastelloy C, etc.

Gasket: On demand Aramidic Fiber, Spiralwound, ecc.

Modello
Model

RF-WN



ANSI 600 RF WN						
DN Size	O mm	C mm	Y mm	X mm	A mm	Peso kg. Weight kg
1"	124	38,1	82,5	54	33,5	10
1" 1/2	156	38,1	86,0	70	48,2	13
2"	165	38,1	86,0	84	60,5	14
2" 1/2	190	38,1	89,0	100	73,2	22
3"	210	38,1	89,0	118	89,0	27
4"	273	44,5	108,0	152	114,3	47
5"	330	50,8	121,0	189	141,0	74
6"	356	54,0	124,0	222	169,0	93
8"	418	62,0	140,0	273	219,0	178
10"	508	70,0	159,0	343	273,0	218
12"	559	73,0	162,0	400	324,0	264

ANSI 300 RF WN						
DN Size	O mm	C mm	Y mm	X mm	A mm	Peso kg. Weight kg
1"	124	38,1	82,5	54	33,5	10
1" 1/2	156	38,1	86,0	70	48,2	13
2"	165	38,1	86,0	84	60,5	14
2" 1/2	190	38,1	89,0	100	73,2	22
3"	210	38,1	89,0	118	89,0	27
4"	254	38,1	92,0	146	114,3	32
5"	279	38,1	102,0	178	141,0	50
6"	318	38,1	102,0	206	169,0	52
8"	381	41,3	111,0	260	219,0	80
10"	444	47,6	117,0	321	273,0	148
12"	521	50,8	130,0	375	324,0	204
14"	584	54,0	143,0	425	356,0	236
16"	647	57,0	146,0	482	407,0	309
18"	711	60,5	159,0	533	457,0	384
20"	774	63,5	162,0	587	508,0	458
24"	914	70,0	168,0	702	610,0	670

ANSI 900 RF WN						
DN Size	O mm	C mm	Y mm	X mm	A mm	Peso kg. Weight kg
1"	149	41,3	83,0	52	33,5	13
1" 1/2	178	41,3	89,0	70	48,2	18
2"	216	44,5	108,0	105	60,5	31
2" 1/2	244	47,6	111,0	124	73,2	45
3"	241	44,5	108,0	127	89,0	38
4"	292	50,8	121,0	159	114,3	49
5"	349	57,2	133,0	191	141,0	100
6"	381	61,9	146,0	235	169,0	126
8"	470	69,9	168,0	298	219,0	214
10"	546	76,2	191,0	368	273,0	305
12"	610	85,7	206,0	419	324,0	423

ANSI 1500 RF WN						
DN Size	O mm	C mm	Y mm	X mm	A mm	Peso kg. Weight kg
1"	149	41,3	83	52	33,5	13
1" 1/2	178	41,3	89	70	48,2	18
2"	218	44,5	108	105	60,5	31
2" 1/2	244	47,6	111	124	73,2	45
3"	267	54,0	124	133	89,0	60
4"	311	60,3	130	162	114,3	89
5"	375	79,4	162	197	141,0	114
6"	394	88,9	178	229	169,0	195
8"	483	98,4	219	292	219,0	328
10"	584	114,3	260	368	273,0	525
12"	673	130,2	289	451	324,0	823

FLANGE TARATE A SALDARE DI TESTA
WELDING NECK ORIFICE FLANGES

Costruzione flange in accordo alle normative ANSI B16.5 - ANSI B16.36 ed alle indicazioni dell'AGA (American Gas Ass.).

Il gruppo di misura è fornito completo di:

- diaframma calibrato
- n. 2 tappi sulle prese di pressione
- n. 2 bulloni estrattori
- tiranti in ASTM A193-B7
- dadi in ASTM A194-2H

Principali materiali impiegati

Flange: Acciaio carbonio, Acciai legati, AISI 316, AISI 304.

Diaframmi: AISI 316, AISI 304, Monel, Hastelloy C, ecc.

Manufactured according to standard ANSI B16.5 - ANSI B16.36 and AGA (American Gas Association) directives.

Orifice meter will supplied with:

- orifice plate
- n. 2 plugs
- n. 2 jack screw
- stud bolts in ASTM A1 93-B7
- nuts ASTM A1 94-2H

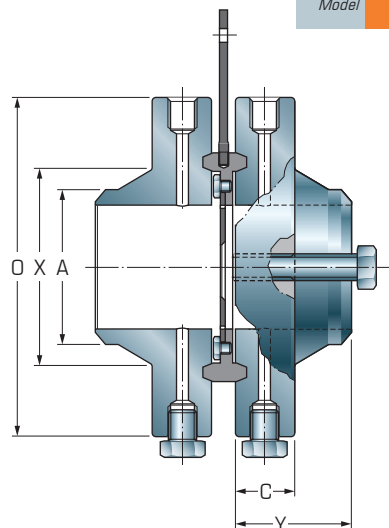
Main material used:

Orifice meter: Carbon steel, Alloy steel, AISI 316, AISI 304

Orifice plates: AISI 316, AISI 304, Monel, Hastelloy C, etc.

Modello
Model

RJ-WN



ANSI 600 RF WN							
DN Size	O mm	C mm	Y mm	X mm	A mm	RJ No.	Peso kg. Weight kg
1"	124	38,1	83,0	54	33,5	R16	10
1" 1/2	156	38,1	86,0	70	48,2	R20	13
2"	165	39,7	87,0	84	60,5	R23	14
2" 1/2	190	39,7	90,0	100	73,2	R26	18
3"	210	39,7	90,0	118	89,0	R31	21
4"	273	46,0	110,0	152	114,3	R37	41
5"	330	52,4	122,0	189	141,0	R41	70
6"	356	55,6	125,0	222	169,0	R45	82
8"	418	63,5	141,0	273	219,0	R49	124
10"	508	71,4	160,0	343	273,0	R53	208
12"	559	74,6	164,0	400	324,0	R57	250

ANSI 300 RF WN							
DN Size	O mm	C mm	Y mm	X mm	A mm	RJ No.	Peso kg. Weight kg
1"	124	38,1	83,0	54	33,5	R16	10
1" 1/2	156	38,1	86,0	70	48,2	R20	13
2"	165	39,7	87,0	84	60,5	R23	14
2" 1/2	190	39,7	90,0	100	73,2	R26	18
3"	210	39,7	90,0	118	89,0	R31	21
4"	254	39,7	94,0	146	114,3	R37	31
5"	279	42,9	106,0	178	141,0	R41	36
6"	318	44,5	106,0	206	169,0	R45	50
8"	381	49,2	119,0	260	219,0	R49	73
10"	444	55,6	125,0	321	273,0	R53	100
12"	521	58,7	138,0	375	324,0	R57	151
14"	584	61,9	151,0	425	356,0	R61	207
16"	647	65,0	154,0	482	407,0	R65	275
18"	711	68,3	167,0	533	457,0	R69	341
20"	774	73,0	171,0	587	508,0	R73	408
24"	914	81,0	179,0	702	610,0	R77	604

ANSI 900 RF WN							
DN Size	O mm	C mm	Y mm	X mm	A mm	RJ No.	Peso kg. Weight kg
1"	149	38,1	83,0	52	33,5	R16	13
1" 1/2	178	38,1	89,0	70	48,2	R20	18
2"	216	46,0	110,0	105	60,5	R24	29
2" 1/2	244	49,2	113,0	124	73,2	R27	41
3"	241	46,0	110,0	127	89,0	R31	34
4"	292	52,4	122,0	159	114,3	R37	59
5"	349	58,7	135,0	191	141,0	R41	96
6"	381	63,5	148,0	235	169,0	R45	120
8"	470	71,4	170,0	298	219,0	R49	204
10"	546	77,8	192,0	368	273,0	R53	291
12"	610	87,3	208,0	419	324,0	R57	405

ANSI 1500 RF WN							
DN Size	O mm	C mm	Y mm	X mm	A mm	RJ No.	Peso kg. Weight kg
1"	149	38,1	83,0	52	33,5	R16	13
1" 1/2	178	38,1	89,0	70	48,2	R20	18
2"	218	46,0	110,0	105	60,5	R24	29
2" 1/2	244	49,2	113,0	124	73,2	R27	41
3"	267	55,6	125,0	133	89,0	R35	58
4"	311	61,9	132,0	162	114,3	R39	82
5"	375	81,0	164,0	197	141,0	R44	105
6"	394	92,1	181,0	229	169,0	R46	186
8"	483	103,2	224,0	292	219,0	R50	306
10"	584	119,1	265,0	368	273,0	R54	500
12"	673	138,1	297,0	451	324,0	R58	764

DADI E TIRANTI PER FLANGE PORTADIAFRAMMA CALIBRATO A NORMA ANSI B 16.36
STUD BOLTS FOR ORIFICE METER WITH ORIFICE PLATE ACCORDING TO STANDARD ANSI B 16.36

	Classe - Class 150				Classe - Class 300				Classe - Class 600			
	Tirante - Stud bolt		L		Tirante - Stud bolt		L		Tirante - Stud bolt		L	
	D	N°	RF	RJ	D	N°	RF	RJ	D	N°	RF	RJ
1"	-	-	-	-	5/8"	4	130	150	5/8"	4	135	150
1" 1/2	-	-	-	-	3/4"	4	135	155	3/4"	4	140	155
2"	-	-	-	-	5/8"	8	130	155	5/8"	8	135	155
3"	-	-	-	-	3/4"	8	135	160	3/4"	8	140	160
4"	-	-	-	-	3/4"	8	135	160	7/8"	8	155	165
6"	-	-	-	-	3/4"	12	135	160	1"	12	180	190
8"	-	-	-	-	7/8"	12	155	175	1"1/8"	12	205	220
10"	-	-	-	-	1"	16	175	190	1"1/4"	16	230	235
12"	-	-	-	-	1"1/8"	16	185	205	1"1/4"	20	235	240
14"	-	-	-	-	1"1/8"	20	190	220	1"3/8"	20	250	260
16"	-	-	-	-	1"1/8"	20	205	230	1"1/2"	20	270	280
18"	1"1/8"	16	165	190	1"1/4"	24	220	235	1"5/8"	20	295	300
20"	1"1/8"	20	180	205	1"1/4"	24	225	250	1"5/8"	24	305	320
22"	1"1/4"	20	190	215	1"1/2"	24	245	275	1"3/4"	24	325	340
24"	1"1/4"	20	200	220	1"1/2"	24	255	280	1"7/8"	24	350	365
26"	1"1/4"	24	235	-	1"5/8"	28	280	315	1"7/8"	28	365	385
28"	1"1/4"	28	245	-	1"5/8"	28	295	325	2"	28	375	395
30"	1"1/4"	28	250	-	1"3/4"	28	315	345	2"	28	385	400

	Classe - Class 900				Classe - Class 1500				Classe - Class 2500			
	Tirante - Stud bolt		L		Tirante - Stud bolt		L		Tirante - Stud bolt		L	
	D	N°	RF	RJ	D	N°	RF	RJ	D	N°	RF	RJ
1"	-	-	-	-	7/8"	4	155	160	7/8"	4	155	160
1" 1/2	-	-	-	-	1"	4	160	165	1"1/8"	4	180	190
2"	-	-	-	-	7/8"	8	155	165	1"	8	185	200
3"	7/8"	8	155	165	1"1/8"	8	185	200	1"1/4"	8	230	245
4"	1"1/8"	8	180	190	1"1/4"	8	205	220	1"1/2"	8	255	280
6"	1"1/8"	12	205	210	1"3/8"	12	270	280	2"	8	350	370
8"	1"3/8"	12	235	245	1"5/8"	12	305	325	2"	12	395	410
10"	1"3/8"	16	250	255	1"7/8"	12	350	365	2"1/2"	12	505	530
12"	1"3/8"	20	270	275	2"	16	390	410	2"3/4"	12	555	580
14"	1"1/2"	20	290	305	2"1/4"	16	420	445				
16"	1"5/8"	20	300	320	2"1/2"	16	475	500				
18"	1"7/8"	20	345	365	2"3/4"	16	510	540				
20"	2"	20	365	385	3"	16	560	585				
22"	-	-	-	-	-	-	-	-				
24"	2"1/2"	20	460	485	3"1/2"	16	635	675				
26"	2"3/4"	20	480	505								
28"	3"	20	490	520								
30"	3"	20	500	535								

Come ordinare: FLANGE DI MISURA PORTA DIAFRAMMA *How to order: ORIFICE METER*

1	-	150	-	RF	-	WN	-	05	-	2N
Diametro Nominale Size		Pressione ANSI - Rating		Accoppiamento Facing		Tipo Type		Materiali Material		Prese pressione std. Pressure taps
1" 14"		150 - 150		Faccia risalto Flat-face - RF		Saldare di testa Welding neck - WN		A 105 - 05		2N - n°2 of 180° 1/2" NPT-F
1 1/2" 16"		300 - 300						AISI 304 - 04		2SW - n°2 of 180° 1/2" SW
2" 18"		600 - 600		Anello di giunzione Ring joint - RJ		Sovrapposizione Welding socket - SO		AISI 304 L - 06		
3" 20"		900 - 900						AISI 316 - 16		
4" 22"		1500 - 1500						AISI 316 L - 17		
6" 24"		2500 - 2500						MONEL - 400		00 - Altre a richiesta Other on request
8" 26"								DUPLEX - 22		
10" 28"								Altri-Other - 00		
12" 30"										

Come ordinare: TIRANTI E DADI *How to order: STUD BOLTS AND NUTS*

1	-	150	-	05
Diametro Nominale Size		Pressione ANSI - Rating		Tipo Type
1" 14"		150 - 150		L7-GR7 - 02
1 1/2" 16"		300 - 300		L7-GR4 - 03
2" 18"		600 - 600		B8-GR8 - 04
3" 20"		900 - 900		B7-2H - 05
4" 22"		1500 - 1500		B16-GR4 - 11
6" 24"		2500 - 2500		
8" 26"				
10" 28"				
12" 30"				