

PARS REGULATOR

Seamless stainless tubes
**for hydraulic and
instrumentation systems**

Heat exchanger and boilers
**Carbon steel and
Stainless steel**



*Seamless and
welded pipe*
**Carbon steel and
stainless steel**

Seamless
Copper alloy tube
Titanium alloy tube
Nickel-copper alloy tube
Aluminum brass
Brass tube



office : 2nd Floor 46 karimkhan ST. Tehran-iran

Tel. : 88832249-50 88307766 88302963 FAX : 88834140

<http://WWW.PARSREGULATOR.COM>

Email : parsregulator@yahoo.com

info@parsregulator.com

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Instrumentation tubing – imperial sizes

Outside diameter	Wall thick-ness	Imperial size ¹⁾	Weight	3R12 TP 304/304L EN 1.4306	3R60 TP 316/316L EN 1.4435		2RK65 UNS N08904 EN 1.4539	SAF 2507 UNS S32750 EN 1.4410	Sanicro 28 UNS N08028 EN 1.4563				
mm	mm		kg/m	Max. working pressure in bar ²⁾									
				EN ³⁾	ASME ⁴⁾	EN	ASME	EN	ASME	EN	ASME	EN	ASME
1.59	0.36	1/16" x 28 BWG	0.011					● 740	662				
	0.51	25 BWG	0.014					● 1008	961				
3.18	0.71	1/8" x 22 BWG	0.044					● 727	652				
	0.89	20 BWG	0.051					● 874	834				
4.76	0.89	3/16" x 20 BWG	0.086					● 585	536				
6.35	0.71	1/4" x 22 BWG	0.100					● 323	301				
	0.89	20 BWG	0.122	● 384	386	● 417	386	● 469	392	● 962	748	● 461	400
	0.91	20 SWG	0.124	● 394	396	● 428	396	● 481	402			● 473	410
	1.22	18 SWG	0.157	● 557	552	● 604	552	● 680	560			● 669	571
	1.24	18 BWG	0.159	● 568	562	● 616	562	● 693	570	● 1421	1088	● 682	582
	1.63	16 SWG	0.193			● 797	759	● 896	771			● 881	786
	1.65	16 BWG	0.194			● 807	770	● 908	781	● 1861	1490	● 893	797
7.94	0.89	5/16" x 20 BWG	0.157			● 324	302						
	0.91	20 SWG	0.160			● 332	310						
9.53	0.89	20 BWG	0.193	● 244	248	● 265	248	● 298	252	● 611	480	● 293	257
	0.91	20 SWG	0.196	● 250	254	● 272	254	● 305	258			● 300	263
	1.22	18 SWG	0.254			● 376	350	● 423	355			● 416	362
	1.24	18 BWG	0.257			● 383	356	● 431	361	● 884	689	● 424	368
	1.63	16 SWG	0.322			● 526	484	● 591	491			● 582	501
	1.65	16 BWG	0.326			● 534	490	● 600	498	● 1230	950	● 590	508
	2.03	3/8" x 14 SWG	0.381			● 686	619						
	2.11	x 14 BWG	0.391			● 720	646						
12.7	0.89	20 BWG	0.263	● 179	183	● 194	183	● 219	185	● 448	354	● 215	189
	0.91	20 SWG	0.268	● 183	187	● 199	187	● 224	190			● 220	194
	1.22	18 SWG	0.350	● 252	256	● 273	256						
	1.24	18 BWG	0.356	● 256	260	● 278	260	● 313	264	● 642	504	● 308	269
	1.63	16 SWG	0.452	● 348	351	● 377	351						
	1.65	16 BWG	0.456	● 353	355	● 383	355	● 430	361	● 882	688	● 423	368
	2.03	14 SWG	0.542			● 486	448	● 546	455				
	2.11	14 BWG	0.559			● 508	468	● 571	475				
15.88	1.22	5/8" x 18 SWG	0.448			● 214	201						
	1.24	18 BWG	0.454			● 218	205						
	1.63	16 SWG	0.582			● 294	275					● 325	284
	1.65	16 BWG	0.588			● 298	278					● 330	288
19.05	1.22	3/4" x 18 SWG	0.544			● 176	166					● 195	172
	1.24	18 BWG	0.553			● 180	169			● 414	328	● 199	175
	1.63	16 SWG	0.711			● 241	226						
	1.65	16 BWG	0.718			● 244	229						
	2.11	14 BWG	0.895			● 320	298						
	2.41	13 BWG	1.00			● 371	345						
	2.77	12 BWG	1.13			● 435	403					● 481	417
25.4	1.22	1" x 18 SWG	0.739			● 130	123						
	1.24	18 BWG	0.750			● 132	125						
	1.65	16 BWG	0.981			● 179	169						
	2.11	14 BWG	1.23			● 233	219						
	2.41	13 BWG	1.39			● 270	252					● 298	261
	3.20	—	1.78			● 370	343						
38.1	2.41	1 1/2" x 13BWG	2.15			● 174	164						
50.8	3.05	2" x 11BWG	3.65			● 165	155						

● Size in stock

¹⁾ SWG = Standard Wire Gauge, BWG = Birmingham Wire Gauge

28 BWG = 0.014 inch 25 BWG = 0.020 inch 22 BWG = 0.028 inch 20 BWG = 0.035 inch 20 SWG = 0.036 inch 18 BWG = 0.049 inch 18 SWG = 0.048 inch
16 BWG = 0.065 inch 16 SWG = 0.064 inch 14 BWG = 0.083 inch 14 SWG = 0.080 inch 13 BWG = 0.095 inch 12 BWG = 0.109 inch 11 BWG = 0.120 inch

²⁾ 1 bar = 0.1 MPa, 1 ksi = 6.895 MPa

³⁾ EN 13480-3 at 50°C.

⁴⁾ ASME B31.3 at 40°C. Max. allowed stress for 3R12 = 304 and for 3R60 = 316.

Calculated wall thickness tolerance -10%.

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Tubes in straight lengths – stock program

Hydraulic tubing – metric sizes

Outside diameter	Wall thickness	Weight	3R12 TP 304/304L EN 1.4306 Max. working pressure in bar ²⁾		3R60 TP 316/316L EN 1.4435		6R35 TP 321 EN 1.4541		5R75 TP 316Ti EN 1.4571	
mm	mm	kg/m	EN ³⁾	ASME ⁴⁾	EN	ASME	EN	ASME	EN	ASME
3	0.5	0.03			● 510	470				
	0.7	0.04			● 718	684				
6	1.0	0.13	● 470	470	● 510	470	● 522	470	● 550	470
	1.5	0.17			● 774	738			● 835	738
8	1.0	0.18	● 338	340	● 366	340	● 375	340	● 395	340
	1.5	0.24	● 541	537	● 587	537	● 600	537	● 633	537
	2.0	0.30	● 714	738	● 774	738	● 792	738		
10	1.0	0.23	● 263	267	● 286	267	● 292	267	● 308	267
	1.5	0.32	● 416	417	● 451	417	● 461	417	● 486	417
	2.0	0.40	● 585	577	● 635	577	● 649	577	● 684	577
12	1.0	0.28	● 216	220	● 234	220	● 240	220	● 252	220
	1.5	0.39	● 338	340	● 366	340	● 375	340	● 395	340
	2.0	0.50	● 470	470	● 510	470	● 522	470	● 550	470
14	1.0	0.33	● 183	186	● 198	186				
	1.5	0.47							● 332	288
	2.0	0.60	● 393	395	● 426	395	● 436	395	● 460	395
15	1.0	0.35	● 170	173	● 184	173				
	1.5	0.51	● 263	267	● 286	267	● 292	267	● 308	267
	2.0	0.65	● 363	366	● 394	366			● 425	366
16	1.0	0.38	● 158	162	● 172	162				
	1.5	0.54	● 245	249	● 266	249			● 287	249
	2.0	0.70	● 338	340	● 366	340	● 375	340	● 395	340
	2.5	0.85			● 473	437	● 484	437	● 510	437
	3.0	0.98							● 633	537
18	1.0	0.43	● 140	143	● 152	143				
	1.5	0.62	● 216	220	● 234	220	● 240	220	● 252	220
	2.0	0.80	● 296	299	● 321	299	● 328	299	● 346	299
	2.5	0.97							● 445	383
20	1.5	0.69	● 193	196	● 209	196				
	2.0	0.90	● 263	267	● 286	267			● 308	267
	2.5	1.09			● 366	340	● 375	340	● 395	340
	3.0	1.28					● 461	417	● 486	417
	4.0	1.60			● 635	577				
22	1.5	0.77	● 174	177	● 189	177	● 193	177	● 203	177
	2.0	1.00	● 237	241	● 257	241	● 263	241	● 278	241
25	1.5	0.88	● 152	155						
	2.0	1.15	● 206	210	● 224	210			● 242	210
	2.5	1.41	● 263	267	● 286	267			● 308	267
	3.0	1.65	● 322	326	● 350	326			● 377	326
28	1.5	1.00	● 135	138	● 146	138	● 149	138		
	2.0	1.30	● 183	186	● 198	186	● 203	186	● 214	186
	2.5	1.60	● 233	236	● 252	236				
30	2.5	1.72			● 234	220				
	3.0	2.03	● 263	267	● 286	267			● 308	267
	4.0	2.60			● 394	366				
35	2.0	1.65	● 144	147	● 156	147				
	2.5	2.03	● 183	186					● 214	186
	3.0	2.40	● 222	226	● 241	226				
38	2.0	1.80	● 132	135	● 143	135				
	3.0	2.63	● 203	207	● 221	207				
	4.0	3.41			● 302	282			● 326	282
	5.0	4.13			● 388	360				
42	2.0	2.00			● 129	122				
	3.0	2.93	● 183	186	● 198	186			● 214	186
50	5.0	5.63			● 286	267				

● Size in stock

Lengths: Stock standard length is 6000 mm. Random lengths min. 5 meters may also be included in a delivery from stock. Tubes in other lengths on request.

Line marking, example: SANDVIK 3R12 ASTM A-269 TP304/304L SMLS NDE 12.7 x 1.24 mm HT"number" LOT"number" QA-TUBE

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Steel grades

Standards						Chemical composition (nominal), %						Mechanical properties		
Sandvik	UNS/ ASTM TP	EN steel no.	SS	AFNOR	W.-Nr.							Proof strength R _{p0.2} MPa min.	Tensile strength R _m MPa min.	Elong. A % min.
						C	Cr	Ni	Mo	Others				
3R12	304/304L	1.4306	2352	Z2CN18-10	1.4306	≤0.030	18.5	10	–	–		210	515–680	45
3R60	316/316L	1.4435	2353	Z2CND17-13	1.4435	≤0.030	17.5	13	2.6	–		220	515–690	45
6R35	321	1.4541	2337	(Z6CNT18-10)	1.4541	0.05	17.5	10.5	–	Ti		210	515–690	45
5R75	316Ti	1.4571	2350	(Z6CNDT17-12)	1.4571	0.05	17	12	2.1	Ti		220	510–710	45
SAF 2507	S32750	1.4410	2328	–	–	≤0.030	25	7	4	N		550	800–1000	25
2RK65	N08904	1.4539	2562	Z1NCDU25-20-04	1.4539	≤0.020	20	25	4.5	Cu		230	520–720	35
Sanicro 28	N08028	1.4563	2584	Z1NCDU31-27-03	1.4563	≤0.020	27	31	3.5	Cu		220	550–750	40

Steel grades stated in our main catalogue, S-110, including titanium can be delivered on request.
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Tolerances

Metric sizes

Sandvik 3R12, 3R60, 6R35 and 5R75
OD 6-42 mm DIN 2391/EN 10305-1

Size OD, mm	Tolerances OD, mm	Wall thickness %
6-30	+/-0.08	+/-10
32-40	+/-0.15	+/-10
42	+/-0.20	+/-10

Sandvik 3R60
OD <6 mm, tolerances according to ASTM A632

Size OD, mm	Tolerances OD, mm	Wall thickness %
<6-4.76	+/-0.10/-0	+/-10
<4.76-2.38	+0.08/-0	+/-10
<2.38	+0.05/-0	+/-10

Sandvik 3R60 with OD above 42 mm:
OD +/-0.50%, but min +/-0.1 mm (D4), WT +/-10%, but min +/-0.2 mm (T3).

Imperial sizes

Sandvik 3R12, 3R60
OD 6.35-25.4 mm according to DIN 2391/EN 10305-1
OD > 25.4 mm according to ASTM A-1016

Size OD, mm	Tolerances OD, mm	Wall thickness %
6.35-25.4	+/-0.08	+/-10
31.75	+/-0.15	+/-10
38.1	+/-0.15	+/-10
50.8	+/-0.25	+/-10

Sandvik 3R60
OD <6 mm, tolerances according to ASTM A632

Size OD, mm	Tolerances OD, mm	Wall thickness %
<6-4.76	+/-0.10/-0	+/-10
<4.76-2.38	+0.08/-0	+/-10
<2.38	+0.05/-0	+/-10

Sandvik 2RK65 and Sandvik Sanicro 28

Size OD, mm	Tolerances OD, mm	Wall thickness %
≤25.4	+/-0.10	+/-10

Sandvik SAF 2507 (UNS S32750)

Size OD, mm	Tolerances OD, mm	Wall thickness %
≤19.05	+/-0.13	+/-10

Standards

Metric sizes

3R12 (TP 304/304L) and 3R60 (TP 316/316L)

EN 10216-5 TC1
PED 97/23/EC
DIN 17458, TC1
NFA 49-117
ASTM A213-AW (average wall), ASTM A269.
OD<6 mm Tol acc to A632

Hydraulic tubing for 6R35 (TP 321) and 5R75 (316Ti)

EN 10216-5 TC1
PED 97/23/EC
DIN 17458, TC1
OD<6 mm Tol acc to A632

Imperial sizes

2RK65 (UNS N08904)

ASTM B677/A269
PED 97/23/EC EN 10216-5 TC1

3R12 (TP 304/304L) and 3R60 (TP 316/316L)

ASTM A213-AW
ASTM A269
OD <6 mm ASTM A632
PED 97/23/EC EN 10216-5 TC1

Sanicro 28 (UNS N08028)

ASTM B668
PED 97/23/EC EN 10216-5 TC1

SAF 2507 (UNS S32750)

ASTM A789

PARS REGULATOR

LOW CARBON STEEL TUBES FOR HEAT EXCHANGER AND BOILERS

Chemical composition mechanical properties

STANDARD	ASTM-A	179	214	192	226
Manufacturing Process		Seamless	ERW	Seamless	ERW
Chemical Analysis					
C	%	0.06-0.18	0.18 max	0.06-0.18	0.06-0.18
Mn	%	0.27-0.63	0.27-0.63	0.27-0.63	0.27-0.63
P max	%	0.035	0.035	0.035	0.035
S max	%	0.035	0.035	0.035	0.035
Si max	%			0.25	0.25
Mechanical Properties					
Tensile Strength	min KSI (MPA)	47 (325)	47 (325)	47 (325)	47 (325)
Yield Strength	min KSI (MPA)	26 (180)	26 (180)	26 (180)	26 (325)
Elongation in 2 in	min %	35	35	35	35

MAIN SPECIFICATION AND STEEL GRADES

ASTM/ASME

A53, Grade A & B
A106, Grade A, B & C
A178, Grade A, C & D
A179, Low Carbon Steel
A192, Low Carbon Steel
A209, Grade T1, T1a & T1b

A210, Grade A-1 & C
A213, T5, T11, T22, & T91
A214, Low Carbon Steel
A333, Grade 1 & 6
A334, Grade 1 & 6
A335, Grade P5, P11, P22 & P91

A500, Grade A, B, C & D
A513, Low Carbon Steel
A519, 1008, 1010, 1020, 1026, 1035
1045, 1050, 1518, 1524, 1541, 4118
4130, 4135, 4140, 4142, 5115, 5120
5140, 52100

API

5L
5CT

AMS

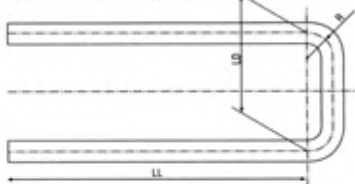
AMS-T6736
4130

The meaning of measurements and symbols

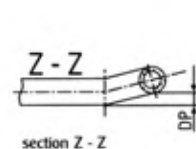
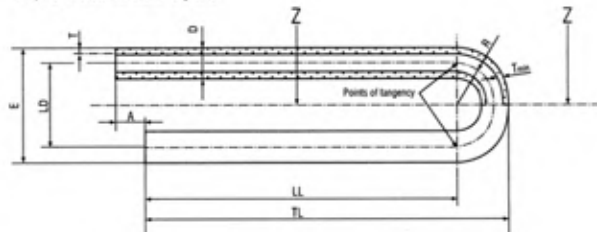
A	LEG LENGTH DIFFERENCE
E	(2R + D) 2X RADIUS PLUS OUTSIDE DIAMETER
D	NOMINAL OUTSIDE DIAMETER
Dmax.	MAX. OUTSIDE DIAMETER
Dmin.	MIN. OUTSIDE DIAMETER
LD	LEG LENGTH DISTANCE MEASURED FROM POINTS OF TANGENCY
LL	LEG LENGTH
TL	TOTAL LENGTH

R	CENTERLINE BEND RADIUS
Rmin.	MIN. RADIUS
T	WALL THICKNESS
Tmin.	MIN. WALL THICKNESS IN OUTSIDE BENDING AREA
SW	SMALLEST WALL THICKNESS OF STRAIGHT TUBE
O	OVALITY
DP	DEVIATION FROM PLANE OF BEND
Z	Section

Square U-bend tube with two 90 deg. bends



Halfpin U-bend tube with one 180 deg. bend



• Wall thinning of bending area

Wall thinning refers to the minimum wall thickness of straight tube
Radius $\geq 1.5 D$: max. 17 % wall thinning

$$T_{min} \geq \frac{SW (2R + D)}{2 (R + D)}$$

• Tolerance for leg spacing

$$(2R - D) = 1.5 \text{ mm}$$

• Tolerance on ovality

Allowable deviation from ovality in %

$$\leq 4 D \quad \frac{D}{3R} 100 = \%$$

$$> 4 D \leq 5\%$$

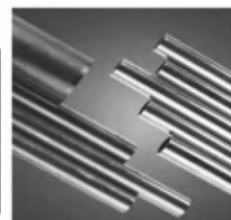
The deviation O of the ovality will be calculated as follows:

$$O = 200 \frac{D_{max} - D_{min}}{D_{max} + D_{min}} = \%$$

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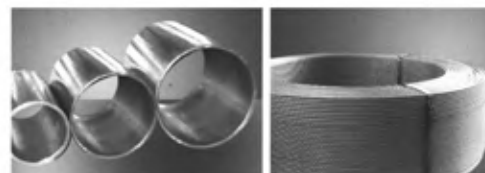
1. NICKEL AND NICKEL ALLOY TUBE FOR CONDENSER AND HEAT-EXCHANGER

Material	Alloy	
	GB/T5235	ASTM B 163
Nickel	N6	UNS N02200
Nickel - copper Alloy	NCU40-2-1	—
	NCU28-2.5-1.5	UNS N04400



Standard	Alloy	Temper		Tensile Strength (N / mm2)	Yield Strength (N / mm2)	A50 Elongation A50 (%)
				Min	Min	Min
GB/T 2882	N6	W.T < 0.9 mm	M	390	—	35 (A)
			Y	540	—	—
		W.T ≥ 0.9 mm	M	370	—	35 (A)
			Y ₂	450	—	12
	NCu28-2.5-1.5 NCu40-2-1	Y	Y	520	—	6 (A)
			Y	585	—	3 (A)
ASTM B163	UNS N02200	Annealed		379	103	40
		Stress - relieved		448	276	15
	UNS N04400	Annealed		483	193	35
		Stress - relieved		586	379	15

2. COPPER ALLOY TUBE FOR HEAT- EXCHANGER



Material	Alloy			
	GB/T 8890	ASTM B111	BS2871	DIN 1785
Copper Nickel	(BFe 5-1.5-0.5)	C70400	—	—
	BFe 10-1-1	C70600	CN102	CuNi 10Fe 1Mn
	BFe 30-1-1	C71500	CN107	CuNi 30Mn 1Fe
	—	C71640	CN108	CuNi 30Fe 2Mn2
Aluminum Brass	HA 177-2	C68700	CZ110	CuZn20A12
Tin Brass	HSn 70-1	C44300	CZ111	CuZn28Sn1
Arsenic Brass	H68A	—	CZ126	—
	H85A	—	—	—

3. WATER SUPPLY COPPER TUBE AND FITTINGS



4. TITANIUM AND TITANIUM ALLOY TUBE



Alloy	Temper	MFG method	Outside Dimeter	Wall Thickness (mm)															
				0.2	0.3	0.5	0.6	0.8	1.0	1.25	1.5	2	2.5	3	3.5	4.0	4.5		
TA0 TA1 TA2 TA9 TA10	Annealed temper (M)	Cold rolled	3~5	○	○	○	○	—	—	—	—	—	—	—	—	—	—		
			> 5~10	—	○	○	○	○	○	○	—	—	—	—	—	—	—		
			> 10~15	—	—	○	○	○	○	○	○	○	—	—	—	—	—		
			> 15~20	—	—	—	○	○	○	○	○	○	○	—	—	—	—		
			> 20~30	—	—	—	○	○	○	○	○	○	○	○	—	—	—		
			> 30~40	—	—	—	—	○	○	○	○	○	○	○	○	—	—		
			> 40~50	—	—	—	—	—	○	○	○	○	○	○	○	○	—		
			> 50~60	—	—	—	—	—	—	○	○	○	○	○	○	○	○		
			> 60~80	—	—	—	—	—	—	—	○	○	○	○	○	○	○		
> 80~110	—	—	—	—	—	—	—	—	○	○	○	○	○	○					

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5.ACR COPPER TUBE & PIPE

Material	GB	ASTM	BS EN	JIS	Master Chemical
Pure Copper	T2	C11000	C101, C102	C1100	Cu + Ag ≥ 99.90
Oxygen-Free Copper	TU1	C10100	—	C1011	Cu + Ag ≥ 99.97
	TU2	C10200	C103	C1020	Cu + Ag ≥ 99.95
Phosphorus Deoxidized Copper	TP1	C12000	—	C1201	Cu + Ag ≥ 99.90 P: 0.004 – 0.012
	TP2	C12200	C106	C1220	Cu + Ag ≥ 99.90 P: 0.015 – 0.040

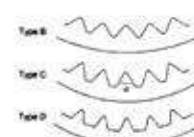
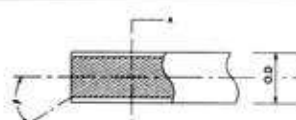
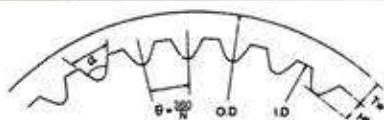


Standard	Product	Alloy	Temper	Tensile Strength (Max)	Yield Strength (Max)	Elongation (%)	Hardness (HV30)	Grain Size (mm)
GB/T11791	Coil	T2	(Y)	≥275	—	—	—	—
			(Y2)	245-325	—	—	—	—
	Length	TU1	(M)	≥205	—	≥40	—	≤0.040
			(M)	≥205	—	≥40	—	0.025-0.06
			(Y)	≥315	—	—	—	—
			(Y2)	245-325	—	—	—	—
BS EN 12735-1	Coil	C106	(M)	≥205	—	≥40	—	0.025-0.06
			(M)	≥205	—	≥40	—	≤0.040
	Length	C1020	R220	≥220	—	≥40	HVs: 40-70	—
			R250	≥250	—	≥30	HVs: 75-100	—
			R290	≥290	—	≥3	HVs: ≥100	—
			O	≥205	—	≥40	HR15T: ≤60	0.025-0.06
JIS H3300	Coil	C1100	1/2H	245-325	—	—	HR15T: ≤65	≤0.040
			H	≥315	—	—	HR30T: 30-60	—
			O	≥205	—	≥40	HR30T: ≥55	—
			1/2H	245-325	—	—	HR30T: 30-60	—
			H	≥275	—	—	HRF: ≥80	—
			O	≥205	—	≥40	HR15T: ≤60	0.025-0.06
	Length	C1201	1/2H	245-325	—	—	HR15T: ≤65	≤0.040
			H	≥315	—	—	HR30T: 30-60	—
			O	≥205	—	≥40	HR30T: ≥55	—
			1/2H	245-325	—	—	HR30T: 30-60	—
			H	≥275	—	—	HRF: ≥80	—
			O	≥205	—	≥40	HR15T: ≤60	0.025-0.06
ASTM B360	Capillary	C12000	H80	≥310	—	—	—	—
		C12200	H80	≥310	—	—	—	—
GB/T1531	Capillary	T2	(Y)	≥345	—	—	—	—
		TP1	(Y2)	245-325	—	—	—	—
YS/T440	Inner-grooved Tube	TP2	(M)	215-270	—	≥35	—	0.015-0.035
ASTM B280	Coil	C12200	60	≥205	—	≥40	—	0.035
			H58	≥250	—	—	—	—
ASTM B98	Length	C10200	50	≥210	—	≥40	—	0.015-0.040
			60	≥210	—	—	—	≥0.040
ASTM B75	Coil	C10100	H55	250-325	≥205	—	HR30T: 30-60	—
			H58	≥250	≥205	—	HR30T: ≥30	—
			H80	≥310	≥275	—	HR30T: ≥55	—
			O60	≥205	≥62	—	HR15T: ≤60	≥0.040
			O50	≥205	≥62	—	HRF: ≤50	—
			H53	≥250	≥205	—	HR15T: ≤65	≥0.040
ASTM B743	Coil	C10200	H53	≥250	≥205	—	HRF: ≤55	—
			60	≥205	≥62	≥40	HR30T: ≥30	—
			50	≥205	≥62	≥40	HR15T: ≤60	≥0.040
			50	≥205	≥62	≥40	HRF: ≤55	≤0.040

6.INNER GROOVED & OUTER GROOVED COPPER TUBE



Material Reference	China	T2	TP2		HSn70-1		Ha177-2		BFe10		
	USA	C12000	C12200		C44300		C68700		C70600		
Size	Inner-grooved Tube Length With Bare Ends	Nominal Diameter (mm)	Inner Tee Height (mm)	Wall Thickness (mm)	Number of Tees (n)	Unit Weight (Kg/m)	Outer fin Height (mm)	Number of Fins (N)	Pitch (mm)	Depth (mm)	
		9.52	0.2	0.4	60	0.125	—	—	—	—	
			0.25	0.45	60	0.135	—	—	—	—	
		12.7	0.3	0.48	60	0.19	—	—	—	—	
			0.25	0.5	75	0.21	—	—	—	—	
		15.88	0.3	0.75	60	0.28	—	—	—	—	
			0.32	0.5	75	0.266	—	—	—	—	
		Tube for Condenser	16	0.3 - 0.4	—	30-45	—	0.8 - 0.9	30-52	—	—
			19	0.3 - 0.4	—	30-45	—	0.8 - 0.9	30-52	—	—
		Tube for Evaporator	16	0.3 - 0.4	—	30-45	—	0.65	30-52	—	—
			19	0.3 - 0.4	—	30-45	—	0.65	30-52	—	—
		Low finned Tube	16	—	—	—	—	1.0 - 1.45	19/26/33	—	—
			19					1.0 - 1.45	19/26/33		
		Corrugated Tube	16-25	—	—	—	—	—	—	5-16	0.3-0.5
		Spiral Tube	9.52-22	—	—	—	—	—	—	5-12	1-2
Standards Reference	GB/T1527-1997		JB/T7226-94		ASME SB75/ SB359		ASME SB111/SB359		ASME B75/B359		



PARS REGULATOR

STOCKISTS AND SUPPLIERS OF

TUBES

PIPE

TUBE FITTING

FLANGES

CNG FITTING

FITTINGS

VEBEO FITTING

VALVES

STUD BOLT & NUT

GASKETS

SI-UNITS (METRIC)

ANSI Pipe Schedule

SI-Units (metric)

OD = mm

Wall thickness = mm

Weight = Kg/m

Vol/m = m

Nominal Pipe Size Inches	OD mm	10	20	30	STD	40	60	XS	80	100	120	140	160	XXS	Figures based on austenitic steel					
															5S	10S	40S	80S	DN	
1/8	10.30				1.73 0.37	1.73 0.37		2.41 0.47	2.41 0.47								1.24 0.28	1.73 0.36	2.41 0.48	6
1/4	13.70				2.24 0.63	2.24 0.63		3.02 0.80	3.02 0.80								1.65 0.51	2.24 0.64	3.02 0.82	8
3/8	17.10				2.31 0.84	2.31 0.84		3.20 1.10	3.20 1.10								1.65 0.64	2.31 0.86	3.20 1.12	10
1/2	21.30				2.77 1.27	2.77 1.27		3.73 1.62	3.73 1.62				4.78 1.95	7.47 2.55	1.65 0.82	2.11 1.01	2.77 1.30	3.73 1.65		15
3/4	26.70				2.87 1.69	2.87 1.69		3.91 2.20	3.91 2.20				5.56 2.90	7.82 3.64	1.65 1.04	2.11 1.31	2.87 1.71	3.91 2.24		20
1	33.40				3.38 2.50	3.38 2.50		4.55 3.24	4.55 3.24				6.35 4.24	9.09 5.45	1.65 1.33	2.77 2.13	3.38 2.55	4.55 3.29		25
1 1/4	42.20				3.56 3.39	3.56 3.39		4.85 4.47	4.85 4.47				6.35 5.61	9.70 7.77	1.65 1.68	2.77 2.76	3.56 3.46	4.85 4.56		32
1 1/2	48.30				3.68 4.05	3.68 4.05		5.08 5.41	5.08 5.41				7.14 7.25	10.15 9.58	1.65 1.95	2.77 3.17	3.68 4.13	5.08 5.51		40
2	60.30				3.91 5.44	3.91 5.44		5.54 7.48	5.54 7.48				8.74 11.11	11.07 13.44	1.65 2.44	2.77 4.01	3.91 5.54	5.54 7.63		50
2 1/2	73.00				5.16 8.63	5.16 8.63		7.01 11.41	7.01 11.41				9.53 14.92	14.02 20.39	2.11 3.77	3.05 5.36	5.16 8.81	7.01 11.64		65
3	88.90				5.49 11.29	5.49 11.29		7.62 15.27	7.62 15.27				11.13 21.35	15.24 27.68	2.11 4.60	3.05 8.59	5.49 11.52	7.62 15.59		80
3 1/2	101.60				5.74 13.57	5.74 13.57		8.08 18.63	8.08 18.63						2.11 5.29	3.05 7.55	5.74 13.84	8.08 19.01		90
4	114.30				6.02 16.07	6.02 16.07		8.56 22.32	8.56 22.32		11.13 28.32		13.49 33.54	17.12 41.03	2.11 5.96	3.05 8.52	6.02 16.40	8.56 22.77		100
5	141.30				6.55 21.77	6.55 21.77		9.53 30.97	9.53 30.97		12.70 40.28		15.88 49.11	19.05 57.43	2.77 9.67	3.40 11.82	6.55 22.20	9.53 31.59		125
6	168.30				7.11 28.26	7.11 28.26		10.97 42.56	10.97 42.56		14.27 54.20		18.26 67.56	21.96 79.22	2.77 11.55	3.40 14.13	7.11 28.83	10.97 43.42		150
8	219.10		6.35 33.31	7.04 36.81	8.18 42.55	8.18 42.55	10.31 53.08	12.70 64.64	12.70 64.64	15.09 75.92	18.26 90.44	20.62 100.92	23.01 111.27	22.23 107.92	2.77 15.09	3.76 20.37	8.18 43.39	12.70 65.59		200
10	273.10		6.35 41.77	7.80 51.03	9.27 60.31	9.27 60.31	12.70 81.55	12.70 81.55	15.09 96.01	18.26 114.75	21.44 133.06	25.40 155.15	28.58 172.33	26.40 155.15	3.40 23.08	4.19 28.34	9.27 61.52	12.70 83.19		250
12	323.90		6.35 49.73	8.38 65.20	9.53 73.88	9.53 73.88	10.31 79.73	12.70 108.96	12.70 108.96	15.09 132.08	17.48 159.91	21.44 186.97	25.40 208.14	28.58 238.76	3.40 31.89	4.19 36.73	9.53 75.52	12.70 99.43		300
14	355.60		6.35 54.89	7.92 67.90	9.53 81.33	9.53 81.33	11.13 94.55	15.09 126.71	15.09 126.71	19.05 158.10	23.83 194.96	27.79 224.85	31.75 253.56	35.71 281.70	3.96 35.06	4.78 42.14				350
16	406.40		6.35 62.84	7.92 77.83	9.53 93.27	9.53 93.27	12.70 123.30	16.66 160.12	12.70 123.30	21.44 203.53	26.19 245.56	30.96 286.64	36.53 333.19	40.49 365.35	4.19 42.41	4.78 48.26				400
18	457.00		6.35 70.57	7.92 87.71	11.13 122.38	9.53 105.16	14.27 155.80	19.05 205.74	12.70 159.15	23.88 254.55	29.36 309.62	34.93 363.56	39.67 408.26	46.24 459.37	4.19 47.77	7.78 60.46				450
20	508.00		6.35 78.55	9.53 117.15	12.70 155.12	9.53 117.15	15.09 183.42	20.62 247.25	12.70 155.12	26.19 311.17	32.64 381.53	38.10 441.49	44.45 508.11	60.01 564.81	4.78 60.46	6.54 70.00				500
22	559.00		6.35 86.54	9.53 129.13	12.70 171.09	9.53 129.13		22.23 294.25	12.70 171.09	28.58 373.83	34.93 451.42	41.28 527.02	47.63 600.63	63.98 672.26	4.78 66.57	5.54 77.06				550
24	610.00		6.35 94.53	9.53 141.12	14.27 209.64	9.53 141.12	17.48 255.41	24.61 355.26	12.70 187.06	30.96 442.08	38.89 547.71	46.02 640.03	52.37 720.15	69.64 808.22	5.54 84.16	6.35 96.37				600
26	660.00		7.92 127.36	12.70 202.72		9.53 152.87			12.70 202.72											650
28	711.00		7.92 137.32	12.70 218.69	15.88 271.21	9.53 164.85			12.70 218.69											700
30	762.00		7.92 147.28	12.70 234.67	15.88 292.18	9.53 176.84			12.70 234.67							6.35 120.72	7.92 150.36			750
32	813.00		7.92 157.24	12.70 250.64	15.88 312.15	9.53 188.82	17.48 342.91		12.70 250.64											800
34	864.00		7.92 167.20	12.70 266.61	15.88 332.12	9.53 200.31	17.48 364.90		12.70 266.61											850
36	914.00		7.92 176.96	12.70 282.27	15.88 351.70	9.53 212.56	19.05 420.42		12.70 282.27											900
38	965.00					9.53 224.54			12.70 298.24											-
40	1016.00					9.53 236.53			12.70 314.22											-
42	1067.00					9.53 248.52			12.70 330.19											-
44	1118.00					9.53 260.50			12.70 346.16											-
46	1168.00					9.53 272.25			12.70 351.82											-
48	1219.00					9.53 284.24			12.70 377.79											-

office : 2nd Floor 46 karimkhan ST. Tehran-iran

Tel. : 88832249-50 88307766 88302963 FAX : 88834140

<http://WWW.PARSREGULATOR.COM>

Email : parsregulator@yahoo.com

info@parsregulator.com