

气缸管 / Pneumatic tube



镀铬管 / Inside chrome plated tube



## 产品参数 / Product parameters

- 产品规格 Specification : 缸筒内径 Cylinder ID : 40mm-400mm 壁厚 Thickness : ≥4mm
- 钢管材质 Material : 20# (A106B, ST45, E255)、45#(CK45)、Q345B (ST52, E355) 、25Mn、27SiMn
- 产品标准 Standard : GB/T3639-2009 (EN10305/DIN2391)

### 1. 规格表 Size Table

内径 ID. mm	外径 OD. mm	壁厚 (Thickness) mm	每米重量 (Unit Weight) kg/meter	内径 ID. mm	外径 OD. mm	壁厚 (Thickness) mm	每米重量 (Unit Weight) kg/meter
40	50	5	5.55	105	130	12.5	36.225
40	55	7.5	8.79	110	127	8.5	24.84
50	60	5	6.78	110	133	11.5	34.46
50	63	6.5	9.06	110	140	15	46.24
50	65	7.5	10.63	120	140	10	32.06
50	70	10	14.80	120	145	12.5	40.84
50	73	11.5	17.44	120	160	20	69.05
55	65	5	7.40	125	140	7.5	24.51
55	70	7.5	11.56	125	143	9	29.74
60	70	5	8.01	125	145	10	33.29
60	73	6.5	10.66	125	150	12.5	42.38
60	76	8	13.42	125	152	13.5	46.11
60	80	10	17.26	130	146	8	27.22
63	73	5	8.38	130	150	10	34.52
63	75	6	10.21	130	156	13	45.84
63	76	6.5	11.14	130	160	15	53.64
63	80	8.5	14.99	140	152	6	21.60
63	83	10	18.00	140	159	9.5	35.02
65	76	5.5	9.56	140	165	12.5	47.01
65	85	10	18.50	140	168	14	53.17
70	80	5	9.25	150	159	4.5	17.14
70	82	6	11.24	150	168	9	35.29
70	83	6.5	12.26	150	175	12.5	50.09
70	85	7.5	14.33	150	180	15	61.03
70	90	10	19.73	160	170	5	20.34
75	90	7.5	15.26	160	180	10	41.92
75	95	10	20.96	160	184	12	50.90
80	90	5	10.48	160	186	13	55.46
80	92	6	12.72	160	190	15	64.73
80	93	6.5	13.87	160	194	17	74.20
80	95	7.5	16.18	160	195	17.5	76.60
80	100	10	22.19	170	200	15	68.43

内径 ID. mm	外径 OD. mm	壁厚 (Thickness) mm	每米重量 (Unit Weight) kg/meter	内径 ID. mm	外径 OD. mm	壁厚 (Thickness) mm	每米重量 (Unit Weight) kg/meter
80	102	11	24.68	170	220	25	120.22
80	108	14	32.45	180	210	15	72.13
82	100	9	20.20	180	219	19.5	95.93
90	102	6	14.20	185	210	12.5	60.88
90	105	7.5	18.03	190	210	10	49.32
90	108	9	21.97	190	220	15	75.83
90	110	10	24.66	200	213	6.5	33.10
90	114	12	30.18	200	216	8	41.03
90	115	12.5	31.60	200	220	10	51.79
95	110	7.5	18.96	200	232	16	85.22
95	127	16	43.80	200	245	22.5	123.45
100	110	5	12.95	200	273	36.5	212.87
100	114	7	18.47	220	250	15	86.93
100	115	7.5	19.88	220	273	26.5	161.09
100	121	10.5	28.61	250	266	8	50.90
100	125	12.5	34.68	250	299	24.5	165.84
100	127	13.5	37.79	280	323	21.5	159.85
100	132	16	45.77	300	320	10	76.45
105	121	8	22.29	350	370	10	88.78

注：其他规格可定制。 Notes : Other specifications can be customized

## 2. 各种英制油缸筒 British system's hydraulic cylinder

Id (inch)	1.5"	2"	2.5"	3"	3.5"	4"	4.5"	5"	5.5"	6"	6.5"	7"	8"
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各种外径辊筒，汽车传动轴，电机壳的规格和要求按双方协议供货

The specification and requirement of various diameter roller, motor shaft, the electricity cabinet may supplied by bilateral agreement.

## 3. 液压&气动缸筒规格尺寸&精度 Hydraulic & pneumatic tube size and parameters

加工方式 Working method	缸筒内径 Cylinder ID (mm)	长度 Length (m)	直线度 Straightness (mm/m)	内径尺寸精度 Tolerance on ID	壁厚差 Tolerance on WT	内孔粗糙度 Roughness ( $\mu\text{m}$ )
冷拔 Cold drawn	40-320	$\leq 12\text{M}$	0.2-0.5	/	$\pm 5\%$	0.8-1.6
冷扎 Cold rolling	30-100	$\geq 12\text{M}$	0.2-0.5	/	$\pm 5\%$	0.8-1.2
冷拔-珩磨 cold drawn-honed	40-500	8M	0.2-0.3	H8-H9	$\pm 5\%$	$\leq 0.4$
冷拔-滚压 Cold drawn-skived	40-400	9M	0.2-0.3	H8-H9	$\pm 5\%$	$\leq 0.2$
深孔镗-珩磨 Deep hole boring-honed	320-400	8M	0.2-0.3	H7-H9	$\pm 8\%$	$\leq 0.8$
深孔镗-滚压 Deep hole boring-skived	320-400	7M	0.2-0.3	H8-H9	$\pm 8\%$	$\leq 0.4$

4. 力学性能 Mechanical property

供货状态 Final Supply Condition	冷硬 Cold finished (Hard) (BK)		冷拔+去应力退火 Cold drawn and stress-relieved(BK+S or +SR)			硬度 Hardness HB
	抗拉强度 T.S obN/mm <sup>2</sup>	伸长率 Elongation δ5%	抗拉强度 T.S obN/mm <sup>2</sup>	屈服强度 Y.S OsN/mm <sup>2</sup>	伸长率 Elongation δ5%	
20#(A106B, ST45, E255)	≥550	≥8	≥520	≥375	≥12	175
45#(CK45)	≥650	≥5	/	/	/	207
Q345B(ST52, E355)	≥640	≥5	≥600	≥520	≥15	190
25Mn	≥640	≥5	≥600	≥510	≥15	195
27SiMn	≥840	≥5	≥800	≥720	≥10	230

5. 内径尺寸公差 Tolerance on ID

内径尺寸 ID Min.	内经偏差 (Tolerance on Id) μm			
	H7	H8	H9	H10
30	+21 0	+33 0	+52 0	+84 0
>30-50	+25 0	+39 0	+62 0	+100 0
>50-80	+30 0	+46 0	+74 0	+120 0
>80-120	+35 0	+54 0	+87 0	+140 0
>120-180	+40 0	+63 0	+100 0	+160 0
>180-250	+46 0	+72 0	+115 0	+185 0
>250-315	+52 0	+81 0	+140 0	+210 0
>315-400	+57 0	+89 0	+170 0	+230 0

6. 化学成分 Chemical Properties

Material	C%	Mn%	Si%	S%	P%
20#	0.17-0.23	0.35-0.65	0.17-0.37	≤0.035	≤0.035
ST45	≤0.21	≥0.4	≤0.35	≤0.025	≤0.025
E255	≤0.21	0.4-1.10	≤0.35	≤0.025	≤0.025
45#	0.42-0.50	0.50-0.80	0.17-0.37	≤0.035	≤0.035
Q345B	≤0.20	≤1.70	≤0.50	≤0.035	≤0.035
E355	≤0.22	≤1.60	≤0.55	≤0.025	≤0.025
ST52	≤0.22	≤1.60	≤0.55	≤0.04	≤0.04
25Mn	0.22-0.29	0.70-1.0	0.17-0.37	≤0.035	≤0.035
27SiMn	0.24-0.32	1.10-1.40	1.10-1.40	≤0.035	≤0.035

## 加工程序 / Processing sequence

原材料 Raw Material
高温退火 (针对45# ,27SiMn, 25Mn等材质) Annealing for material of 45# ,27SiMn, 25Mn
酸洗 Acid cleaning
磷化皂化 Parkerizing & Saponifying
冷拔 Cold drawn
校直 Leveling
锯断 Saw off bad section
回火 Stress relieving
校直 Leveling
珩磨或滚压 Honing or skiving
镀油 Oil plated
检验 Inspection
包装 Packing

