

CROMSTEEL INDUSTRIES



HARDENED AND GROUND STEEL BARS

HARDENED&HARD CHROME PLATED STEEL BARS

HARDENED AND GROUND STAINLESS STEEL BARS

HARDENED AND GROUND HOLLOW SHAFTS

HARDENED, HARD CHROME PLATED HOLLOW SHAFTS

PRECISION SHAFTS - SLIDE SHAFTS - CUSTOM MACHINING

High precision round steel bars, shafts and tubes for linear motion system

Production programme

- **W series - hardened and ground**

WZ series hardened and ground in inch

- **WV series - hardened, hard chrome plated**

WVZ series - hardened, hard chrome plated in inch

- **WRA series - hardened and ground stainless steel**

WRAZ series - hardened and ground stainless steel in inch

- **WRB series - hardened and ground stainless steel**

WRBZ series hardened and ground stainless steel in inch

- **WH hollow shafts- series -hardened and ground**

WHZ hollow shafts hardened and ground in inch

- **WHV hollow shafts - series - hardened and hard chrome plated**

WHVZ - hollow shafts hardened and hard chrome plated in inch

- **WP deep hardened and ground steel bars for ball screws production**

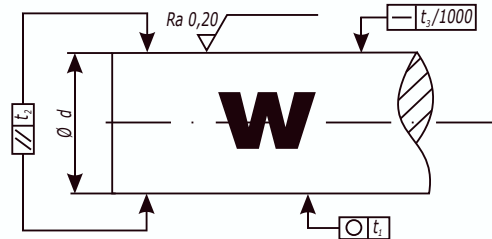
WPZ deep hardened and ground steel bars for ball screws production in inch

Precision shafts/ Slide shafts including custom machining

Induction hardened and ground linear shafts

Ck 55

as alternative to Cf 53



Shaft Diameter d	Weight per meter length	Shaft code number	Standard length	Hardening depth Rht	Standard tolerance ISO h6	Tolerance ISO g6	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
mm	kg		mm	mm	μm	μm	μm	μm	mm/m
4	0.10	W4	2100	0.5 - 0.8	0 - 6	-2 - 8	3	4	0.3
5	0.16	W5	3200	0.5 - 0.8	0 - 8	-4 - 12	4	6	0.3
6	0.23	W6	6000	0.5 - 0.8	0 - 8	-4 - 12	4	6	0.3
8	0.40	W8	6000	0.6 - 0.9	0 - 9	-5 - 14	4	6	0.3
10	0.62	W10	6000	0.7 - 1.0	0 - 9	-5 - 14	4	6	0.3
12	0.89	W12	6000	0.8 - 1.2	0 - 11	-6 - 17	5	8	0.2
13	1.04	W13	6000	0.8 - 1.2	0 - 11	-6 - 17	5	8	0.2
14	1.21	W14	6000	0.9 - 1.3	0 - 11	-6 - 17	5	8	0.2
15	1.39	W15	6000	1.0 - 1.4	0 - 11	-6 - 17	5	8	0.2
16	1.58	W16	6000	1.1 - 1.5	0 - 11	-6 - 17	5	8	0.2
18	2.00	W18	6000	1.1 - 1.5	0 - 11	-6 - 17	5	8	0.2
20	2.47	W20	6000	1.2 - 1.5	0 - 13	-7 - 20	6	8	0.1
22	2.98	W22	6000	1.2 - 1.5	0 - 13	-7 - 20	6	8	0.1
24	3.55	W24	6000	1.4 - 1.6	0 - 13	-7 - 20	6	8	0.1
25	3.85	W25	6000	1.5 - 1.7	0 - 13	-7 - 20	6	9	0.1
28	4.83	W28	6000	1.5 - 1.8	0 - 13	-7 - 20	6	9	0.1
30	5.55	W30	6000	1.5 - 1.9	0 - 13	-7 - 20	6	9	0.1
32	6.31	W32	6000	1.5 - 1.9	0 - 16	-9 - 25	7	11	0.1
35	7.55	W35	6000	1.8 - 1.9	0 - 16	-9 - 25	7	11	0.1
40	9.87	W40	6000	1.6 - 2.0	0 - 16	-9 - 25	7	11	0.1
45	12.50	W45	6000	1.6 - 2.0	0 - 16	-9 - 25	7	11	0.1
50	15.40	W50	6000	2.2 - 2.6	0 - 16	-9 - 25	7	11	0.1
55	18.64	W55	6000	2.2 - 2.6	0 - 19	-10 - 29	8	13	0.1
60	22.20	W60	6000	2.2 - 2.6	0 - 19	-10 - 29	8	13	0.1
70	30.20	W70	6000	2.2 - 2.6	0 - 19	-10 - 29	8	13	0.1
75	34.70	W75	6000	2.2 - 2.6	0 - 19	-10 - 29	8	13	0.1
80	39.50	W80	6000	2.2 - 2.6	0 - 19	-10 - 29	8	13	0.1
90	49.92	W90	6000	2.2 - 3.2	0 - 22	-12 - 34	8	13	0.2
100	61.62	W100	6000	2.2 - 3.2	0 - 22	-12 - 34	8	13	0.2

By request we can supply shaft diameters in no listed dimensions with special length and tolerances.

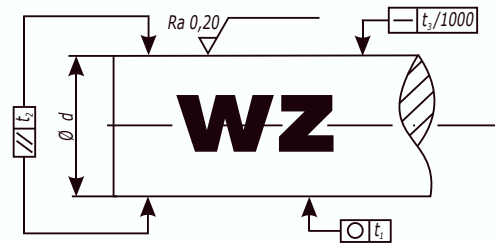
Max available length 8200 mm up to diameter 16 mm.

Surface hardness: 60-64 HRC

Lengths tolerances (+200 / -0)mm

Induction hardened and ground linear shafts in inch

Ck 55
as alternative to Cf 53



Shaft Diameter d	Shaft code number	Standard length	Hardening depth Rht (max) DIN6773	Tolerance Class 'L'	Standard Tolerance ISOh6	Weight per meter	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
mm		inch	inch	inch	inch	kg	inch	inch	inch
6.35	WZ 1/4	237	0.019-0.031	-0.0005/-0.0010	0/-0.0003	0.25	0.0002	0.0002	0.012
9.525	WZ 3/8	237	0.027-0.039	-0.0005/-0.0010	0/-0.0004	0.56	0.0002	0.0002	0.012
12.7	WZ 1/2	237	0.031-0.047	-0.0005/-0.0010	0/-0.0004	0.99	0.0002	0.0003	0.008
15.875	WZ 5/8	237	0.043-0.059	-0.0005/-0.0010	0/-0.0004	1.55	0.0002	0.0003	0.008
19.05	WZ 3/4	237	0.047-0.059	-0.0005/-0.0010	0/-0.0005	2.24	0.0002	0.0004	0.008
25.4	WZ 1	237	0.059-0.066	-0.0005/-0.0010	0/-0.0005	3.97	0.0002	0.0004	0.008
31.75	WZ 1 ¼	237	0.059-0.074	-0.0005/-0.0010	0/-0.0006	6.22	0.0003	0.0004	0.004
38.10	WZ 1 ½	237	0.062-0.078	-0.0006/-0.0011	0/-0.0006	8.95	0.0003	0.0004	0.004
50.8	WZ 2	237	0.086-0.102	-0.0006/-0.0013	0/-0.0007	15.91	0.0003	0.0004	0.004
57.15	WZ 2 ¼	237	0.086-0.102	-0.0007/-0.0015	0/-0.0007	20.13	0.0003	0.0005	0.004
63.5	WZ 2 ½	237	0.086-0.102	-0.0007/-0.0015	0/-0.0007	24.85	0.0003	0.0005	0.004
76.2	WZ 3	237	0.086-0.102	-0.0008/-0.0017	0/-0.0007	35.78	0.0003	0.0005	0.004

By request we can supply Shafts diameters in no listed dimensions with special lengths and tolerances.

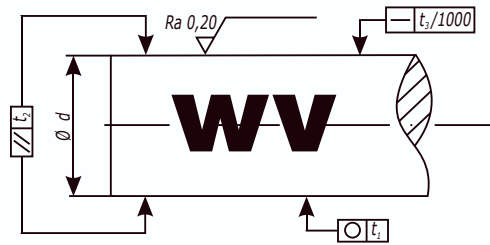
Max available length 8200mm for dia up to diameter 5/8 inch.

By request we can also delivery "S" Class tolerance.

Lengths tolerances (+200 / -0)mm

Induction hardened and chromed plated linear shafts

Ck 55 as alternative to Cf 53



Shaft Diameter d	Weight per meter	Shaft code number	Standard length(*)	Hardening depth Rht DIN 6773	Standard tolerance ISO h7	Special Tolerance ISO h6	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
mm	kg		mm	mm	µm	µm	µm	mm/m	
4	0.10	WV4	2100	0.5-0.8	0 -10	0 -6	6	10	0.3
5	0.16	WV5	3000	0.5-0.8	0 -12	0 -8	6	10	0.3
6	0.23	WV6	6000	0.5-0.8	0 -12	0 -8	6	10	0.3
8	0.40	WV8	6000	0.6-0.9	0 -15	0 -9	6	10	0.3
10	0.62	WV10	6000	0.7-1.0	0 -15	0 -9	6	10	0.3
12	0.89	WV12	6000	0.8-1.2	0 -18	0 -11	8	12	0.2
14	1.21	WV14	6000	0.9-1.3	0 -18	0 -11	8	12	0.2
15	1.39	WV15	6000	1.0-1.4	0 -18	0 -11	8	12	0.2
16	1.58	WV16	6000	1.1-1.5	0 -18	0 -1	8	12	0.2
18	2.00	WV18	6000	1.1-1.5	0 -18	0 -11	8	12	0.2
20	2.47	WV20	6000	1.2-1.5	0 -21	0 -13	9	12	0.1
22	2.98	WV22	6000	1.2-1.5	0 -21	0 -13	9	12	0.1
24	3.55	WV24	6000	1.4-1.6	0 -21	0 -13	9	12	0.1
25	3.85	WV25	6000	1.5-1.7	0 -21	0 -13	9	12	0.1
28	4.83	WV28	6000	1.5-1.8	0 -21	0 -13	9	12	0.1
30	5.55	WV30	6000	1.5-1.9	0 -21	0 -13	9	12	0.1
32	6.31	WV32	6000	1.5-1.9	0 -25	0 -16	11	15	0.1
35	7.55	WV35	6000	1.5-1.9	0 -25	0 -16	11	15	0.1
40	9.87	WV40	6000	1.6-2.0	0 -25	0 -16	11	15	0.1
45	12.50	WV45	6000	1.6-2.0	0 -25	0 -16	11	15	0.1
50	15.40	WV50	6000	2.2-2.6	0 -25	0 -16	11	15	0.1
55	18.64	WV55	6000	2.2-2.6	0 -30	0 -19	12	15	0.1
60	22.20	WV60	6000	2.2-2.6	0 -30	0 -19	12	15	0.1
70	30.20	WV70	6000	2.2-2.6	0 -30	0 -19	12	15	0.1
75	34.70	WV75	6000	2.2-2.6	0 -30	0 -19	12	15	0.1
80	39.50	WV80	6000	2.2-2.6	0 -30	0 -19	12	15	0.1
90	49.92	WV90	6000	2.2-3.2	0 -35	0 -22	8	13	0.2
100	61.62	WV100	6000	2.2-3.2	0 -35	0 -22	8	13	0.2

By request we can supply shaft diameters in no listed dimensions, with special length and tolerances.

Chrome thickness: 5 - 12 µm.

Chrome layer hardness = 900 - 1100 HV 0.1

*by request for diameter up to 16 mm we can offer max lenght 8200 mm.

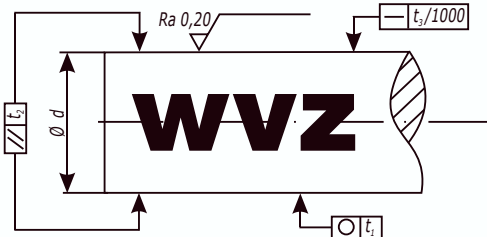
** For: Standard tolerance ISO h7

Lenghts tolerances (+200 / -0)mm

Induction hardened and chromed plated linear shafts in inch

Ck 55

as alternative to Cf 53



Shaft Diameter d	Weight per meter	Shaft code number	Standard length	Hardening depth Rht DIN6773	Tolerance Class "L"	Standard tolerance ISO h7	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
mm	kg		inch	inch	inch	inch	inch	inch	inch
6.35	0.25	WVZ ¼	237	0.0002/-0.0003	-0.0005/- 0.001	0.0005	0.0002	0.0004	0.012
9.525	0.56	WVZ 3/8	237	0.0003/-0.0004	-0.0005/- 0.001	0.0006	0.0002	0.0004	0.012
12.7	0.99	WVZ ½	237	0.0003/-0.0005	-0.0005/- 0.001	0.0007	0.0003	0.0005	0.008
15.875	1.55	WVZ 3/8	237	0.0004/-0.0006	-0.0005/- 0.001	0.0007	0.0004	0.0005	0.008
19.05	2.24	WVZ ¾	237	0.0005/-0.0006	-0.0005/- 0.001	0.0008	0.0004	0.0005	0.004
25.4	3.97	WVZ 1	237	0.0006/-0.0006	-0.0005/- 0.001	0.0008	0.0004	0.0005	0.004
31.75	6.22	WVZ 1 ¼	237	0.0006/-0.0007	-0.0005/- 0.001	0.001	0.0004	0.0006	0.004
38.10	8.95	WVZ 1 ½	237	0.0006/-0.0008	-0.0006/- 0.0011	0.001	0.0004	0.0006	0.004
50.8	15.91	WVZ 2	237	0.0009/-0.001	-0.0006/- 0.0013	0.0012	0.0004	0.0006	0.004
57.15	20.13	WVZ 2 ¼	237	0.0009/-0.001	-0.0007/-0.0015	0.0012	0.0005	0.0006	0.004
63.5	24.85	WVZ 2 ½	237	0.0009/-0.001	-0.0007/-0.0015	0.0012	0.0005	0.0006	0.004
76.2	35.78	WVZ 3	237	0.0009/-0.001	-0.0008/-0.0017	0.0012	0.0005	0.0006	0.004

Chrome thickness : 5-12 µm.

Chrome layer hardness = 900 - 1100 HV 0.1

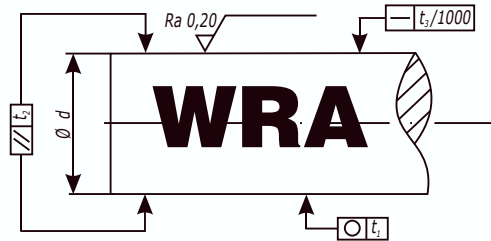
*by request for diameter up to 5/8 inch we can offer max length 8200 mm.

Lengths tolerances (+200 / -0)mm

Induction hardened stainless steel linear shafts

X90CrMoV18

W1.4112



Shaft Diameter d	Weight per meter	Shaft code number	Standard length	Hardening depth DIN 50190 (max)	Standard tolerance ISO h6	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
mm	kg		mm	mm	μm	μm	μm	mm/m
5	0.16	WRA 5	2100	0.5-0.8	0 - 8	4	5	0.3
6	0.23	WRA 6	3100	0.5-0.8	0 - 8	4	6	0.3
8	0.40	WRA 8	6000	0.6-0.9	0 - 9	4	6	0.3
10	0.62	WRA 10	6000	0.7-1.0	0 - 9	4	6	0.3
12	0.89	WRA 12	6000	0.8-1.2	0 - 11	5	8	0.3
14	1.21	WRA 14	6000	0.9-1.3	0 - 11	5	8	0.2
15	1.39	WRA 15	6000	1.1-1.5	0 - 11	5	8	0.2
16	1.58	WRA 16	6000	1.1-1.5	0 - 11	5	8	0.2
20	2.47	WRA 20	6000	1.2-1.6	0 - 13	6	9	0.1
25	3.85	WRA 25	6000	1.5-1.7	0 - 13	6	9	0.1
30	5.55	WRA 30	6000	1.5-1.9	0 - 13	6	9	0.1
40	9.87	WRA 40	3000	2.5-3.0	0 - 16	7	11	0.1
50	15.40	WRA 50	3000	2.7-3.2	0 - 16	7	11	0.1
60	22.20	WRA 60	3000	2.9-3.3	0 - 19	8	13	0.1

By request we can supply shaft diameters in no listed dimensions, with special lengths and tolerances.

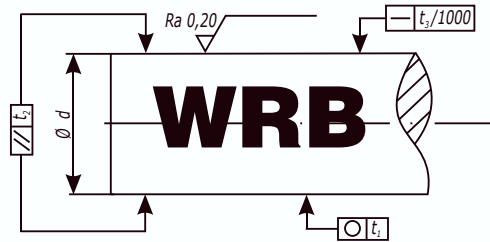
Lengths tolerances (+200 / -0)mm

Surface hardness min 55 HRC

Induction hardened stainless steel linear shafts

X46Cr13

W1.4034

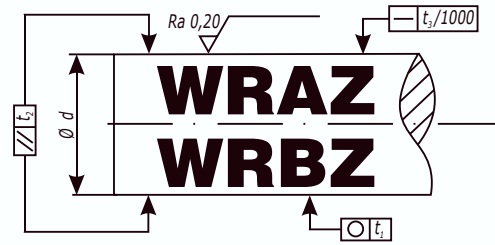


Shaft Diameter d	Weight per meter	Shaft code number	Standard length	Hardening depth DIN 50190 (max)	Standard tolerance ISO h6	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
mm	kg		mm	mm	μm	μm	μm	mm/m
5	0.16	WRB 5	2100	0.5-0.8	0-8	4	5	0.3
6	0.23	WRB 6	3100	0.5-0.8	0-8	4	6	0.3
8	0.40	WRB 8	6000	0.6-0.9	0-9	4	6	0.3
10	0.62	WRB 10	6000	0.7-1.0	0-9	4	6	0.3
12	0.89	WRB 12	6000	0.8-1.2	0-11	5	8	0.2
14	1.21	WRB 14	6000	0.9-1.3	0-11	5	8	0.2
15	1.39	WRB 15	6000	0.9-1.3	0-11	5	8	0.2
16	1.58	WRB 16	6000	1.1-1.5	0-11	5	8	0.2
20	2.47	WRB 20	6000	1.2-1.5	0-13	6	9	0.1
25	3.85	WRB 25	6000	1.5-1.7	0-13	6	9	0.1
30	5.55	WRB 30	6000	1.5-1.9	0-13	6	9	0.1
40	9.87	WRB 40	6000	2.5-3.0	0-16	7	11	0.1
50	15.40	WRB 50	6000	2.7-3.2	0-16	7	11	0.1
60	22.20	WRB 60	6000	2.9-3.3	0-19	8	13	0.1

By request we can supply shaft diameters in no listed dimensions, with special lengths and tolerances.
 Lengths tolerances (+200 / -0)mm
 Surface hardness min 53 HRC

Induction hardened stainless steel linear shafts in inch

X90CrMoV18
X46Cr13



X90CrMoV18

Shaft Diameter d	Weight per meter	Shaft code number	Standard length	Hardening depth Rht DIN50190	Tolerance Class "L"	Standard tolerance ISO h6	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
inch	kg		inch	inch	inch	inch	inch	inch	inch
1/4	0.25	WRAZ 1/4	123	0.019-0.031	-0.0005/-0.001	0/-0.0003	0.0002	0.0002	0.012
3/8	0.56	WRAZ 3/8	237	0.027-0.039	-0.0005/-0.001	0/-0.0004	0.0002	0.0002	0.012
1/2	0.99	WRAZ 1/2	237	0.031-0.047	-0.0005/-0.001	0/-0.0004	0.0002	0.0003	0.008
5/8	1.55	WRAZ 5/8	237	0.043-0.059	-0.0005/-0.001	0/-0.0004	0.0002	0.0003	0.008
3/4	2.24	WRAZ 3/4	237	0.047-0.059	-0.0005/-0.001	0/-0.0005	0.0002	0.0004	0.004
1	3.97	WRAZ 1	237	0.059-0.066	-0.0005/-0.001	0/-0.0005	0.0002	0.0004	0.004
1 1/4	6.22	WRAZ 1 1/4	237	0.059-0.074	-0.0005/-0.001	0/-0.0005	0.0002	0.0004	0.004
1 1/2	8.95	WRAZ 1 1/2	237	0.094-0.114	-0.0005/-0.001	0/-0.0006	0.0003	0.0004	0.004
2	15.91	WRAZ 2	237	0.106-0.125	-0.0006/-0.0011	0/-0.0007	0.0003	0.0005	0.004
2 1/4	20.13	WRAZ 2 1/4	237	0.114-0.129	-0.0006/-0.0013	0/-0.0007	0.0003	0.0005	0.004
2 1/2	24.85	WRAZ 2 1/2	237	0.114-0.129	-0.0007/-0.0015	0/-0.0007	0.0003	0.0005	0.004
3	35.78	WRAZ 3	237	0.114-0.129	-0.0008/-0.0017	0/-0.0007	0.0003	0.0005	0.004

X46Cr13

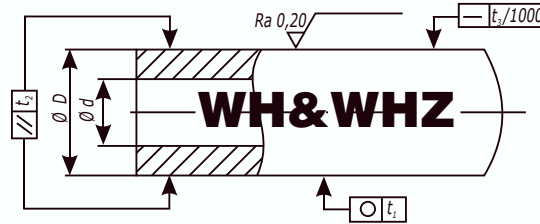
Shaft Diameter d	Weight per meter	Shaft code number	Standard length	Hardening depth Rht DIN50190	Tolerance Class "L"	Standard tolerance ISO h6	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
inch	kg		inch	inch	inch	inch	inch	inch	inch
1/4	0.25	WRBZ 1/4	123	0.019-0.031	-0.0005/-0.001	0/-0.0003	0.0002	0.0002	0.012
3/8	0.56	WRBZ 3/8	237	0.027-0.039	-0.0005/-0.001	0/-0.0004	0.0002	0.0002	0.012
1/2	0.99	WRBZ 1/2	237	0.031-0.047	-0.0005/-0.001	0/-0.0004	0.0002	0.0003	0.008
5/8	1.55	WRBZ 5/8	237	0.043-0.059	-0.0005/-0.001	0/-0.0004	0.0002	0.0003	0.008
3/4	2.24	WRBZ 3/4	237	0.047-0.059	-0.0005/-0.001	0/-0.0005	0.0002	0.0004	0.004
1	3.97	WRBZ 1	237	0.059-0.066	-0.0005/-0.001	0/-0.0005	0.0002	0.0004	0.004
1 1/4	6.22	WRBZ 1 1/4	237	0.059-0.074	-0.0005/-0.001	0/-0.0005	0.0002	0.0004	0.004
1 1/2	8.95	WRBZ 1 1/2	237	0.094-0.114	-0.0005/-1.001	0/-0.0006	0.0003	0.0004	0.004
2	15.91	WRBZ 2	237	0.106-0.125	-0.0006/-0.0011	0/-0.0007	0.0003	0.0005	0.004
2 1/4	20.13	WRBZ 2 1/4	237	0.114-0.129	-0.0006/-0.0013	0/-0.0007	0.0003	0.0005	0.004
2 1/2	24.85	WRBZ 2 1/2	237	0.114-0.129	-0.0007/-0.0015	0/-0.0007	0.0003	0.0005	0.004
3	35.78	WRBZ 3	237	0.114-0.129	-0.0008/-0.0017	0/-0.0007	0.0003	0.0005	0.004

Lengths tolerances (+200 / -0)mm

Induction hardened hollow linear shafts

Ck55

100Cr6



Diameter		Shaft Code	Standard length	Hardening depth Rht (max) DIN6773	Tolerance ISO h6	Weight per meter	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
Outer D	Inner d (+/- 10%)								
mm	mm	mm	mm		μm	kg	μm	μm	mm/m
12	4.0	WH12	3000	0.6 - 1.3	0 - 11	0.79	5	8	0.2
14	7.0	WH14	3000	0.6 - 1.3	0 - 11	0.91	5	8	0.2
16	7.0	WH16	3000	0.6 - 1.6	0 - 11	1.28	5	8	0.2
20	14.0	WH20	3000	0.9 - 1.6	0 - 13	1.25	6	9	0.1
25	15.6	WH25	6000	0.9 - 1.8	0 - 13	2.35	6	9	0.1
30	18.3	WH30	6000	0.9 - 2.0	0 - 13	3.50	6	9	0.1
40	28.0	WH40	6000	1.5 - 2.5	0 - 16	4.99	7	11	0.1
50	29.7	WH50	6000	1.5 - 3.0	0 - 16	9.91	7	11	0.1
60	36.0	WH60	6000	2.2 - 3.0	0 - 19	14.20	8	13	0.1
80	57.0	WH80	6000	2.2 - 3.0	0 - 19	19.43	8	13	0.1
90	60.0	WH90	3000	2.5 - 3.0	0 - 22	27.73	10	16	0.2
100	65.0	WH100	3000	2.5 - 3.3	0 - 22	35.61	10	16	0.2

By request we can supply shaft diameters in no listed dimensions with special lengths and tolerances

Surface hardness min 60 HRC

Lengths tolerances (+200 / -200) mm

Shaft Diameter outer D	inner d (+/- 10%)	Weight per meter	Shaft code number	Standard length	Hardening depth Rht DIN6773	Tolerance Class "L"	Standard tolerance ISO h7	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
mm	inch	kg		inch	inch	inch	inch	inch	inch	inch/m
1/2	0.16	0.90	WHZ 1/2	119	0.023-051	-0.0005/-0.001	0/-0.0004	0.0002	0.0003	0.008
5/8	0.25	1.30	WHZ 1 5/8	119	0.023-051	-0.0005/-0.001	0/-0.0004	0.0002	0.0003	0.008
3/4	0.438	1.4	WHZ 3/4	119	0.035-062	-0.0005/-0.001	0/-0.0005	0.0002	0.0004	0.004
1	0.61	2.50	WHZ 1	237	0.035-070	-0.0005/-0.001	0/-0.0005	0.0002	0.0004	0.004
1 1/4	0.72	4.15	WHZ 1 1/4	237	0.059-078	-0.0005/-0.001	0/-0.0005	0.0002	0.0004	0.004
1 1/2	0.89	5.80	WHZ 1 1/2	237	0.059-098	-0.0006/-0.0011	0/-0.0006	0.0003	0.0004	0.004
2	1.25	9.69	WHZ 2	237	0.086-118	-0.0006/-0.0013	0/-0.0007	0.0003	0.0005	0.004
2 1/2	1.75	12.67	WHZ 2 1/2	237	0.086-11	-0.0007/-0.0015	0/-0.0007	0.0003	0.0005	0.004
3	2	19.88	WHZ 3	237	0.086-11	-0.0008/-0.0017	0/-0.0007	0.0003	0.0005	0.004

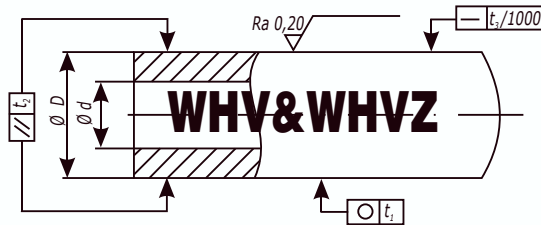
By request we can supply shaft diameters is no listed dimensions with special lengths and tolerances

Surface hardness min 60 HRC

Lengths tolerances (+200 / -200) mm

Induction hardened & chromed hollow linear shafts

Ck55
100Cr6



Shaft Diameter		Weight per meter	Shaft code number	Standard length	Hardening depth Rht DIN6773	Standard tolerance ISO h7	Roundness (circular) t1	Parallelism (cylindric) t2	Straight-ness t3
outer D	inner d (+/- 10%)								
mm		mm		mm	mm	µm	µm	µm	mm/m
12	4	0.79	WHV12	3000	0.6 - 1.3	0 - 18	8	12	0.2
14	7	0.91	WHV14	3000	0.6 - 1.3	0 - 18	8	12	0.2
16	7	1.28	WHV16	3000	0.6 - 1.6	0 - 18	8	12	0.2
20	14	1.25	WHV20	3000	0.9 - 1.6	0 - 21	9	12	0.1
25	15.6	2.35	WHV25	6000	0.9 - 1.8	0 - 21	9	12	0.1
30	18.3	3.50	WHV30	6000	1.9 - 2.0	0 - 21	9	12	0.1
40	28	4.99	WHV40	6000	1.5 - 2.5	0 - 25	11	15	0.1
50	29.7	9.91	WHV50	6000	1.5 - 2.5	0 - 25	11	15	0.1
60	36	14.20	WHV60	6000	2.2 - 3.0	0 - 30	12	15	0.1
80	57	19.43	WHV80	6000	2.2 - 3.0	0 - 30	12	15	0.1
90	60	27.73	WHV90	3000	2.5 - 3.0	0 - 35	14	17	0.1
100	65	35.61	WHV100	3000	2.5 - 3.3	0 - 35	14	17	0.1

By request we can supply shafts diameters is no listed dimensions with special lengths and tolerances

Chromium thickness: 5 - 12 µm

Chrome layer hardness: 900 - 1100 HV 0.1

Shaft Diameter		Weight pro meter	Shaft code number	Standard length	Hardening depth Rht DIN6773	Tolerance Class "L"	Standard tolerance ISO h7	Roundness (circular) t1	Parallelism (cylindric) t2	Straightness t3
outer D	inner d (+/- 10%)									
inch	inch	kg		inch	inch	inch	inch	inch	inch	inch
½	0.16	0.90	WHVZ 1/2	119	0.023-0.051	-0.0005/-0.001	0/-0.0007	0.0003	0.0005	0.008
5/8	0.25	1.30	WHVZ 5/8	119	0.027-0.062	-0.0005/-0.001	0/-0.0007	0.0003	0.0005	0.008
¾	0.438	1.48	WHVZ 3/4	119	0.043-0.062	-0.0005/-0.001	0/-0.0008	0.0004	0.0005	0.008
1	0.61	2.50	WHVZ 1	237	0.047-0.070	-0.0005/-0.001	0/-0.0008	0.0004	0.0005	0.004
1 ¼	0.72	4.15	WHVZ 1 ¼	237	0.062-0.078	-0.0005/-0.001	0/-0.0008	0.0004	0.0005	0.004
1 ½	0.89	5.80	WHVZ 1 ½	237	0.078-0.098	-0.0006/-0.0011	0/-0.001	0.0004	0.0006	0.004
2	1.25	9.69	WHVZ 2	237	0.094-0.118	-0.0006/-0.0013	0/-0.001	0.0004	0.0006	0.004
2 ½	1.75	12.67	WHVZ 2 ½	237	0.098-0.118	-0.0007/-0.0015	0/-0.001	0.0005	0.0006	0.004
3	2	19.88	WHVZ 3	237	0.098-0.118	-0.0008/-0.0017	0/-0.001	0.0005	0.0006	0.004

By request we can supply shafts diameters is no listed dimensions with special lengths and tolerances

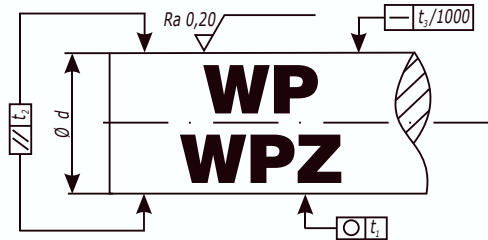
Chrome thickness: 5 - 12 µm (0,0002 - 0,00047)

Chrome layer hardness: 900 - 1100 HV 0.1

Lenghts tolerances (+200 / -0)mm

Deep hardened and ground steel bars for ball screws

50CrV4
50CrMo4
Ck55
100Cr6



Diameter d	Weight per meter	Shaft code number	Standard length	Maximum hardened depth Rht DIN6773	Tolerance ISO h7	Straightness t3
mm	kg/m		mm	mm	μm	mm/m
20	2.47	WP20	6000	4	0 - 21	0.3
22	2.98	WP22	6000	4	0 - 21	0.3
25	3.85	WP25	6000	4	0 - 21	0.3
28	4.83	WP28	6000	5	0 - 21	0.3
30	5.55	WP30	6000	5	0 - 21	0.3
32	6.31	WP32	6000	6	0 - 25	0.3
35	7.55	WP35	6000	6	0 - 25	0.3
40	9.80	WP40	6000	6	0 - 25	0.3
45	12.50	WP45	6000	6	0 - 25	0.3
50	15.40	WP50	6000	6	0 - 25	0.3
55	18.64	WP55	6000	6	0 - 30	0.3
60	22.20	WP60	6000	6.5	0 - 30	0.3
70	30.20	WP70	6000	6.5	0 - 30	0.3
75	34.70	WP75	6000	6.5	0 - 30	0.3
80	39.50	WP80	6000	6.5	0 - 30	0.3

Lengths tolerances (+200 / -0)mm
 By request max. length 8200 mm

Shaft Diameter d	Weight per meter	Shaft code number	Standard length	Hardening depth Rht DIN6773	Tolerance Class "L"	Standard tolerance ISO h7	Straightness t3
inch	kg		inch	inch	inch	inch	inch
3/4	2.24	WPZ 3/4	237	0.079-0.157	-0.0005/-0.001	0/-0.0008	0.004
1	3.97	WPZ 1	237	0.079-0.157	-0.0005/-0.001	0/-0.0008	0.004
1 ¼	6.22	WPZ 1 ¼	237	0.079-0.236	-0.0005/-0.001	0/-0.0010	0.004
1 ½	8.95	WPZ 1 ½	237	0.079-0.236	-0.0006/-0.0011	0/-0.0010	0.004
2	15.91	WPZ 2	237	0.079-0.236	-0.0006/-0.0013	0/-0.0012	0.004
2 ½	24.85	WPZ 2 ½	237	0.079-0.255	-0.0007/-0.0015	0/-0.0012	0.004
3	35.78	WPZ 3	237	0.079-0.255	-0.0008/-0.0017	0/-0.0012	0.004

Lengths tolerances (+200 / -0)mm
 By request max. length 322 inch

Hardness conversion table

Rockwell C- Vickers hardness Brinell hardness HB
 Scale hardness
 HRC HV Standard Ball
 (Load : 150 kg)

68	940	-
67	900	-
66	865	-
65	832	-
64	800	-
63	772	-
62	746	-
61	720	-
60	697	-
59	674	-
58	653	-
57	633	-
56	613	-
55	595	-
54	577	-
53	560	-
52	544	500
51	528	487
50	513	475
49	498	464
48	484	451
47	471	442
46	458	432
45	446	421
44	434	409
43	423	400
42	412	390
41	402	381
40	392	371
39	382	362
38	372	353
37	363	344
36	354	336
35	345	327
34	336	319
33	327	311
32	318	301
31	310	294
30	302	286
29	294	279
28	286	271
27	279	264
26	272	258
25	266	253
24	260	247
23	254	243
22	248	237
21	243	231
20	238	226
(18)	230	219
(16)	222	212
(14)	213	203
(12)	204	194
(8)	188	179
(6)	180	171
(4)	173	165
(2)	166	158
(0)	160	152

Deviation of Shaft Diameter

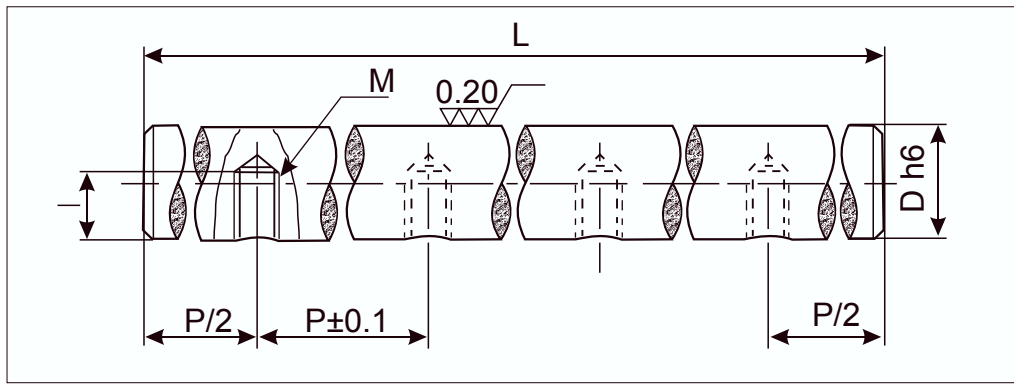
Diameter Classification Mm	f7		g6		h5		h6		h7		h8		h9		h10		j6		k5		k6		m5		m6		n5		n6	
	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo	Up	Lo
3	-10	-18	-4	-12	0	-8	0	-8	0	-12	0	-18	0	-30	0	-48	+6	-2	+6	+1	+9	+1	+9	+4	+12	+4	+13	+8	+16	+8
6	-13	-22	-5	-14	0	-6	0	-9	0	-15	0	-22	0	-36	0	-58	+7	-2	+7	+1	+12	+1	+12	+6	+15	+6	+16	+10	+19	+10
10	-16	-27	-6	-17	0	-8	0	-11	0	-18	0	-27	0	-43	0	-70	+8	-3	+9	+1	+15	+1	+15	+7	+18	+7	+20	+12	+23	+12
14	-20	-33	-7	-20	0	-9	0	-13	0	-21	0	-33	0	-52	0	-84	+9	-4	+11	+2	+17	+2	+17	+8	+21	+8	+24	+15	+28	+15
18	-25	-41	-9	-25	0	-11	0	-16	0	-25	0	-39	0	-62	0	-100	+11	-5	+13	+2	+20	+2	+20	+9	+25	+9	+28	+17	+33	+17
24	-30	-49	-10	-29	0	-13	0	-19	0	-30	0	-46	0	-74	0	-120	+12	-7	+15	+2	+24	+2	+24	+11	+30	+11	+33	+20	+39	+20
30	-36	-58	-12	-34	0	-15	0	-22	0	-35	0	-54	0	-87	0	-140	+13	-9	+18	+3	+28	+3	+28	+13	+35	+13	+38	+23	+45	+23
40	-43	-68	-14	-39	0	-18	0	-25	0	-40	0	-63	0	-100	0	-160	+14	-11	+21	+3	+33	+3	+33	+15	+40	+15	+45	+27	+52	+27



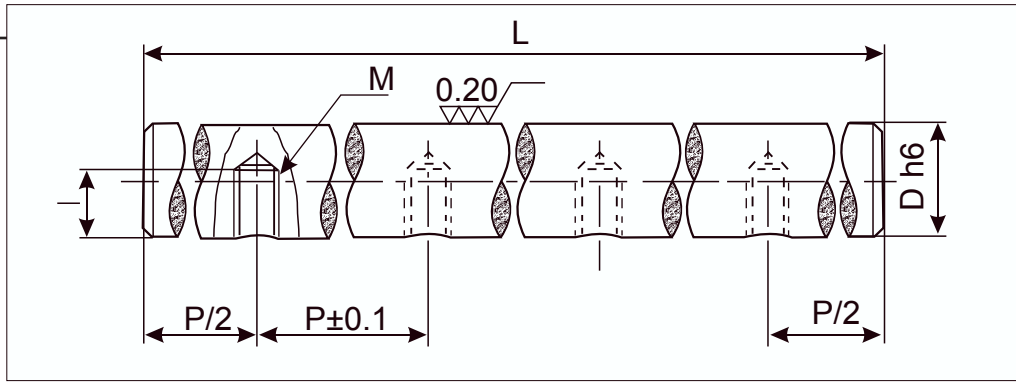
Precision shafts Slide shafts

- **precision machining**
- **templates**
- **custom machining**

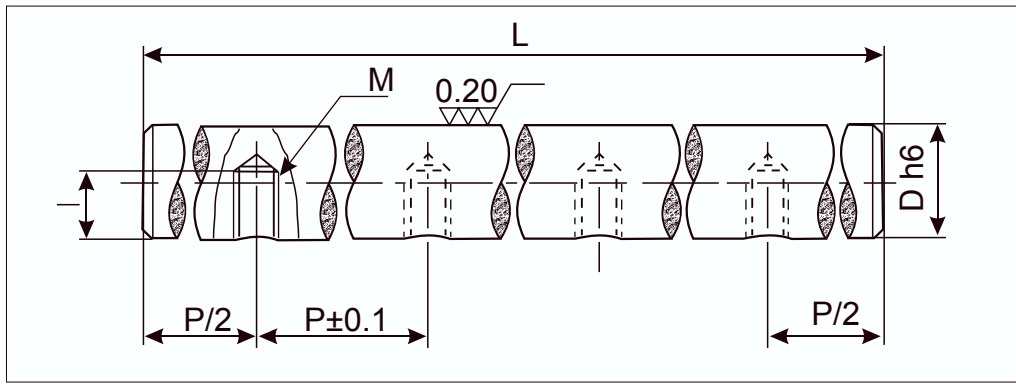




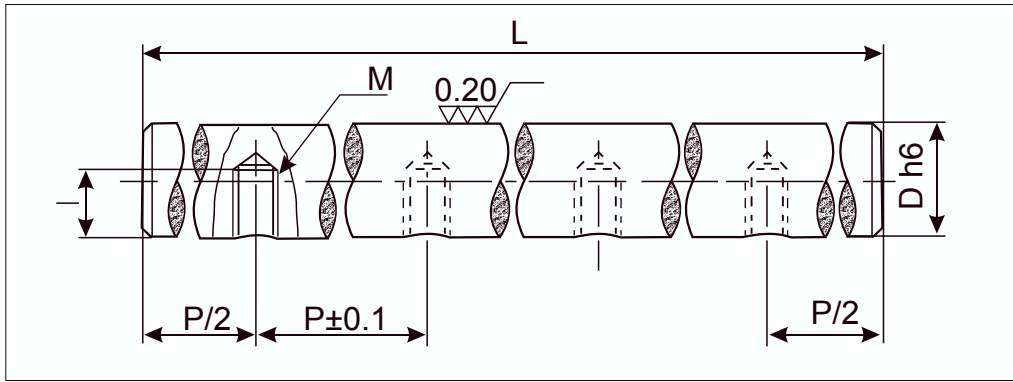
Shaft Diameter D	Shaft code number	Pitch P	P/2	Nominal screw size	Thread Depth l	Standard length L	N° of holes for standard length
mm		mm	mm		mm	mm	
10	WB10A	75	37,5	M4	6	6000	79
10	WB10B	120	60	M4	6	6000	49
10	WB10C	150	75	M4	6	6000	39
12	WB12A	75	37,5	M4	8	6000	79
12	WB12B	120	60	M4	8	6000	49
12	WB12C	150	75	M4	8	6000	39
13	WB13A	75	37,5	M4	8	6000	79
13	WB13B	120	60	M4	8	6000	49
13	WB13C	150	75	M4	8	6000	39
14	WB14A	75	37,5	M4	8	6000	79
14	WB14B	120	60	M4	8	6000	49
14	WB14C	150	75	M4	8	6000	39
15	WB15A	75	37,5	M4	8	6000	79
15	WB15B	120	60	M4	8	6000	49
15	WB15C	150	75	M4	8	6000	39
15	WB15D	150	75	M5	8	6000	39
16	WB16A	75	37,5	M5	9	6000	79
16	WB16B	100	50	M5	9	6000	59
16	WB16C	150	75	M5	9	6000	39
16	WB16D	150	75	M4	9	6000	39
18	WB18A	50	25	M6	9	6000	119
18	WB18B	75	37,5	M6	9	6000	79
18	WB18C	100	50	M6	9	6000	59
18	WB18D	150	75	M6	9	6000	39
18	WB18E	150	75	M5	9	6000	39
18	WB18F	150	75	M8	9	6000	39
20	WB20A	50	25	M6	11	6000	119
20	WB20B	75	37,5	M6	11	6000	79
20	WB20C	100	50	M6	11	6000	59
20	WB20D	150	75	M6	11	6000	39
20	WB20E	150	75	M6	11	6000	39



Shaft Diameter D	Shaft code number	Pitch P	P/2	Nominal screw size	Thread Depth l	Standard length L	Nº of holes for standard length
mm		mm	mm		mm	mm	
22	WB22A	50	25	M6	11	6000	119
22	WB22B	75	37,5	M6	11	6000	79
22	WB22C	100	50	M6	11	6000	59
22	WB22D	150	75	M6	11	6000	39
22	WB22E	150	75	M6	11	6000	39
22	WB22F	150	75	M5	11	6000	39
22	WB22G	150	75	M8	11	6000	39
25	WB25A	60	30	M8	15	6000	99
25	WB25B	75	37,5	M8	15	6000	79
25	WB25C	120	60	M6	15	6000	49
25	WB25D	120	60	M8	15	6000	49
25	WB25E	150	75	M6	15	6000	39
25	WB25F	200	100	M6	15	6000	29
30	WB30A	60	30	M10	17	6000	99
30	WB30B	75	37,5	M10	17	6000	79
30	WB30C	100	50	M10	17	6000	59
30	WB30D	150	75	M6	15	6000	39
30	WB30E	150	75	M8	15	6000	39
30	WB30F	150	75	M10	15	6000	39
30	WB30G	200	100	M8	15	6000	29
35	WB35A	60	30	M10	17	6000	99
35	WB35B	75	37,5	M10	17	6000	79
35	WB35C	100	50	M10	17	6000	59
35	WB35D	150	75	M6	15	6000	39
35	WB35E	150	75	M8	15	6000	39
35	WB35F	150	75	M10	15	6000	39
35	WB35G	200	100	M8	15	6000	29
35	WB35I	200	100	M12	15	6000	29
40	WB40A	75	37,5	M12	21	6000	79
40	WB40B	100	50	M12	21	6000	59
40	WB40C	150	75	M10	19	6000	39
40	WB40D	150	75	M8	21	6000	39
40	WB40E	200	100	M10	19	6000	29
40	WB40F	200	100	M8	17	6000	29
40	WB40G	300	150	M8	17	6000	19

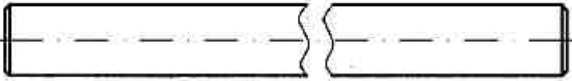

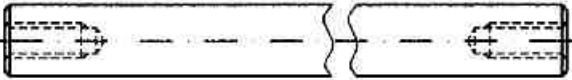
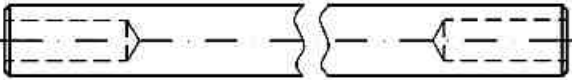
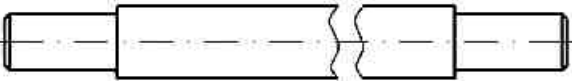
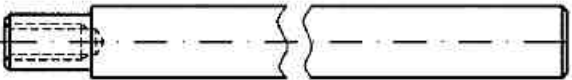

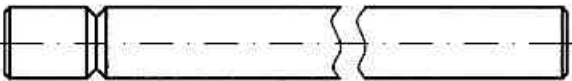
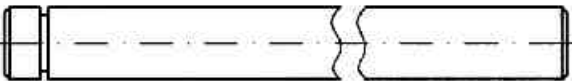
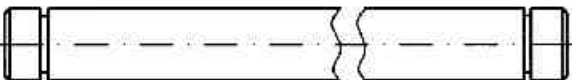



Shaft Diameter D	Shaft code number	Pitch P	P/2	Nominal screw size	Thread Depth l	Standard length L	N of holes for standard length
mm		mm	mm		mm	mm	
45	WB45A	75	37,5	M12	21	6000	79
45	WB45B	100	50	M12	21	6000	59
45	WB45C	150	75	M10	19	6000	39
45	WB45D	150	75	M8	21	6000	39
45	WB45E	200	100	M10	19	6000	29
45	WB45F	200	100	M8	17	6000	29
45	WB45G	300	150	M8	17	6000	19
50	WB50A	100	50	M16	27	6000	59
50	WB50B	100	50	M14	25	6000	59
50	WB50C	150	75	M10	22	6000	39
50	WB50D	150	75	M10	21	6000	39
50	WB50E	200	100	M10	21	6000	29
50	WB50F	200	100	M12	21	6000	29
50	WB50G	300	150	M12	21	6000	19
50	WB50H	300	150	M10	21	6000	19
60	WB60A	100	50	M16	27	6000	59
60	WB60B	100	50	M14	25	6000	59
60	WB60C	150	75	M10	22	6000	39
60	WB60D	150	75	M10	21	6000	39
60	WB60E	200	100	M10	21	6000	29
60	WB60F	200	100	M12	21	6000	29
60	WB60G	300	150	M12	21	6000	19
60	WB60H	300	150	M10	21	6000	19
60	WB60I	300	150	M20	21	6000	19
70	WB70A	100	50	M16	27	6000	59
70	WB70B	100	50	M14	25	6000	59
70	WB70C	150	75	M10	22	6000	39
70	WB70D	150	75	M10	21	6000	39
70	WB70E	200	100	M10	21	6000	29
70	WB70F	200	100	M12	21	6000	29
70	WB70G	300	150	M12	21	6000	19
70	WB70H	300	150	M10	21	6000	19
80	WB80A	100	50	M16	27	6000	59
80	WB80B	100	50	M14	25	6000	59
80	WB80F	200	100	M12	21	6000	29
80	WB80G	300	150	M12	21	6000	19
80	WB80I	300	150	M20	21	6000	19
80	WB80J	300	150	M22	21	6000	19



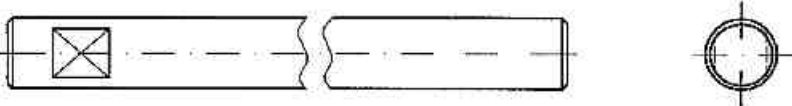
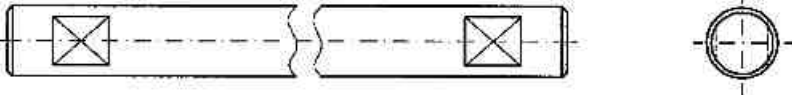

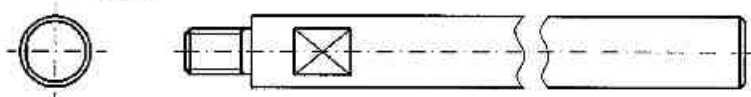
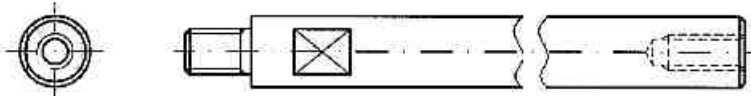
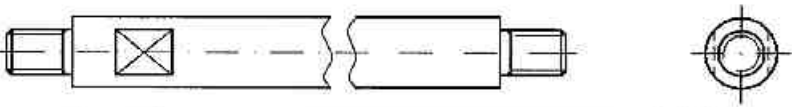

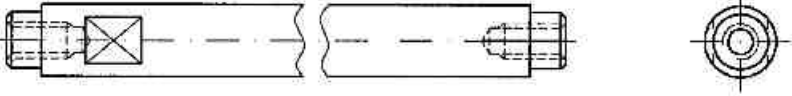



Major diameter D	Part No.	Diameter Tolerance ISO h5 P	Hole spacing	Standard Thread		Maximum Length L
				M (Size)	Dp (Depth)	
inch/mm	inch		inch			inch
0.375/9.525	WZ9xL-PD	0-0.0003	4	#6-32	0.196	236
0.5/12.700	WZ12xL-PD	0-0.0003	4	#6-32	0.280	236
0.625/15.875	WZ15xL-PD	0-0.0003	4	8-32	0.350	236
0.75/19.050	WZ19xL-PD	0-0.0004	6	10-32	0.400	236
1/25.400	WZ25xL-PD	0-0.0004	6	1/4-20	0.500	236
1.25/31.750	WZ31xL-PD	0-0.0004	6	5/16-18	0.650	236
1.5/38.100	WZ38xL-PD	0-0.0004	8	3/8-16	0.700	236
2/50.800	WZ50xL-PD	0-0.0005	8	1/2-13	0.850	236
2.5/63.500	WZ63xL-PD	0-0.0005	8	1/2-13	1.000	236
2.75/69.850	WZ69xL-PD	0-0.0005	10	1/2-13	1.100	236
3/76.200	WZ76xL-PD	0-0.0005	10	1/2-13	1.200	236


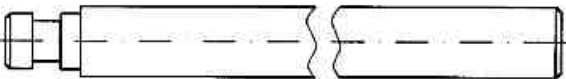
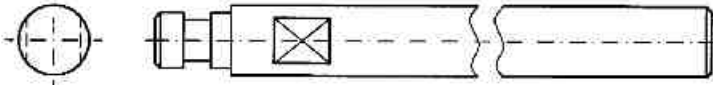
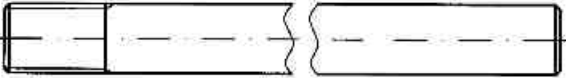
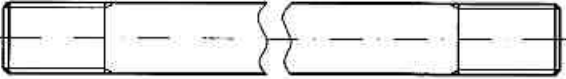

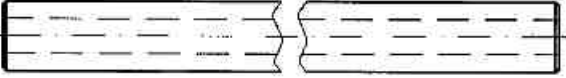

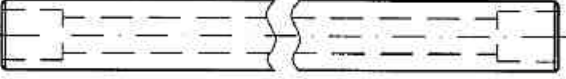
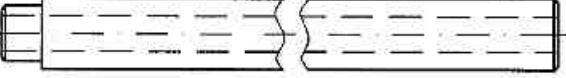

Precision machining

Items	Templates	Shaft code
1		CR0001
2		CR0002
3		CR0003
4		CR0004
5		CR0005
6		CR0006
7		CR0007
8		CR0008
9		CR0009
10		CR0010
11		CR0011

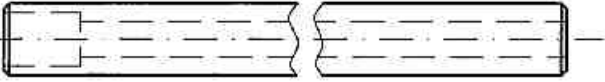
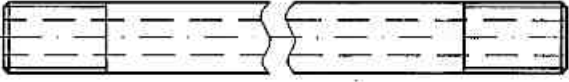
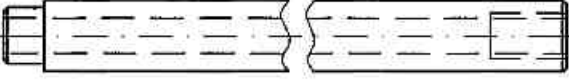
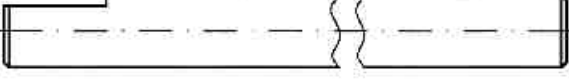
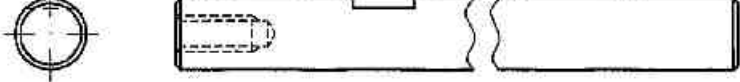

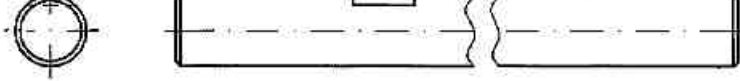

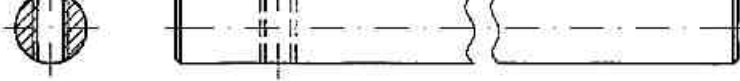
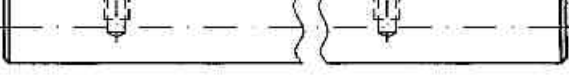
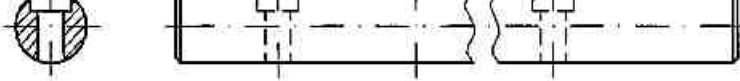
Precision machining

Items	Templates	Shaft code
12		CR0012
13		CR0013
14		CR0014
15		CR0015
16		CR0016
17		CR0017
18		CR0018
19		CR0019
20		CR0020
21		CR0021
22		CR0022

Precision machining

Items	Templates	Shaft code
23		CR0023
24		CR0024
25		CR0025
26		CR0026
27		CR0027
28		CR0028
29		CR0029
30		CR0030
31		CR0031
32		CR0032
33		CR0033

Precision machining

Items	Templates	Shaft code	
34		CR0034	
35		CR0035	
36		CR0036	
37		CR0037	
38		CR0038	
39		CR0039	
40		CR0040	
41		CR0041	
42		CR0042	
43		CR0043	
44		CR0044	

CONTACT

Paolo MENNINI
Chairman of the board

Tel: +39 0574 681 258
Tel: +39 0574 681 21
Fax: +39 0574 681 262

Samy NUMAN
Managing director
samy.cromsteel@romwest.ro

Tel: +40 245 213 261
Fax: +40 245 213 360
Tel: +40 245 213 925

Petrica MIHAI
Account manager
cromsteel@romwest.ro

Tel: +40 245 213 261
Fax: +40 245 213 360
Tel: +40 245 213 925

Rebeca TENEA
Commercial Department
rebeca.cromsteel@romwest.ro

Tel: +40 245 213 261
Tel: +40 245 213 925
Tel: +40 245 635 730
Fax: +40 245 213 360

Czech Republic
Bulgaria
Hungary
Serbia
Croatia
Slovenia
Russia
Ukraina
other countries

Magdalena COSTACHE
magda.cromsteel@romwest.ro
Madalina VISAN
madalina.cromsteel@romwest.ro
Commercial Department

Tel: +40 245 213 261
Tel: +40 245 213 925
Tel: +40 245 635 730
Fax: +40 245 213 360
Cell phone: +40 721 196 433

Holland
Belgium
UK
Sweden
Poland
Latvia
Letonia
Estonia

Cristina BANICA
Commercial Department
cristina.cromsteel@romwest.ro

Tel: +40 245 213 261
Tel: +40 245 213 925
Tel: +40 245 635 730
Fax: +40 245 213 360

FAIT GROUP
Italia
Israel
Germany

Crina MORNEA
Commercial Department
crina.cromsteel@romwest.ro

Tel: +40 245 213 261
Tel: +40 245 213 925
Tel: +40 245 635 730
Fax: +40 245 213 360

USA
Canada
England
Scotland
Australia
India

Laura FLORESCU
Jurist
laura.cromsteel@romwest.ro

Tel: +40 245 213 261
Tel: +40 245 213 925
Tel: +40 245 635 730
Fax: +40 245 213 360
Cell phone: +40 724 779 798

Spain
Turkey
China / Taiwan
France
Iran
Greece
Koreea

Nicolae BANULESCU
Domestic market. Romanian sales
banulescu.cromsteel@romwest.ro

Tel: +40 245 640 223
Fax: +40 245 640 224
Fax: +40 245 213 360

Nicolae JOITA
Purchasing
joita.cromsteel@romwest.ro

Tel: +40 245 213 261
Fax: +40 245 213 360
Tel: +40 245 213 925

Sava DOBRE
Spedition
Import-Export & Transports
savy.cromsteel@romwest.ro

Tel: +40 245 213 261
Fax: +40 245 213 360
Tel: +40 245 213 925

Adrian PICU
Export sales
cromsteel@romwest.ro

Cell phone: +40 722 725 789
Fax: +40 245 213 360

We reserve the right to make changes to dimensions, tolerances and other data given in this sheet.

