



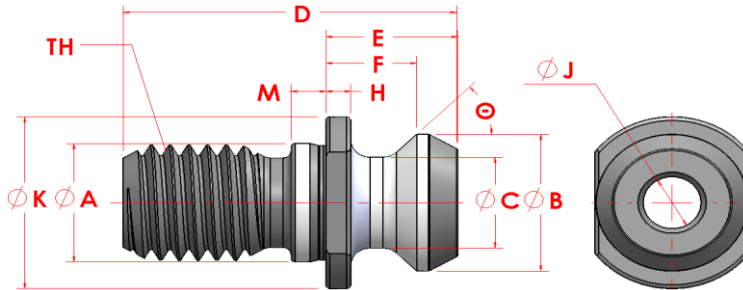
Retention Knobs (Proof Tested) Manufactured for Strength

STANDARD
600-1000 MPa

PTPCNC
1400 MPa Min

WOW

- ❖ **Retention Knobs (RK)**, the weakest part in the Spindle & Tool System and shall be of impeccable quality.
- ❖ **Material:** High Alloy Carburizing Steel with certified Hardenability
- ❖ Soft Threads, Soft & super-finished holes.
- ❖ Every Batch Samples tested for desired **Tensile Strength (1400-1800 N/mm²)**.
- ❖ Each RK **proof tested** at force of at least 2 times the Clamping Force on the machine
- ❖ **Magnetic Particle Testing** conducted on each RK to ensure physical soundness.
- ❖ Tolerances are **much reduced** for uniform and guaranteed draw bar Clamping Force.
- ❖ **Radii Design and blending** of highest order & uniformity with tolerance within close limits.
- ❖ **Rolled Threads** make the Knobs stronger by 15-20%.
- ❖ Finish Grinding only on **CNC Grinders** with Auto-Dressing and IPG.
- ❖ Select **Right Pull Stud** for your Machine. Before use, check with Draw Bar Force Gage for adequate Force

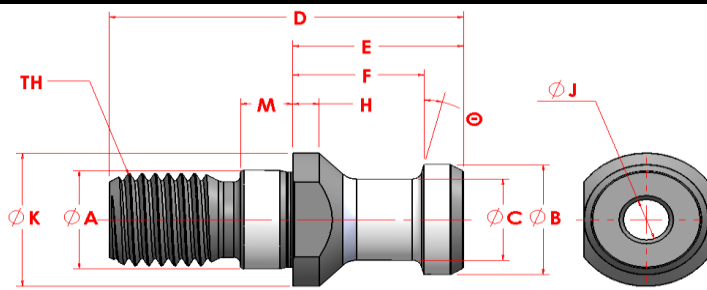


ANSI TYPE

ANSI B5.50

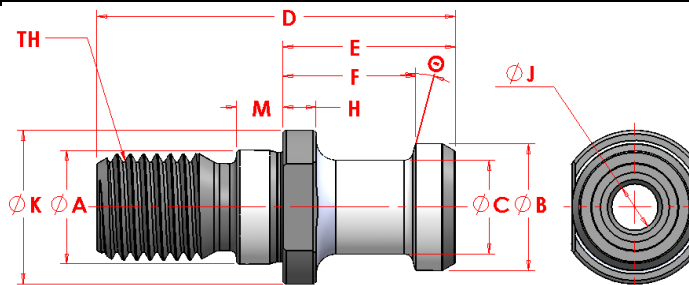
ISO 7388/2-B

ORDERING CODE USA	TYPE	TH	A	B	C	D	E	F	H	J	K	M	θ	SEAL RING ON PILOT	COOLANT 'O' RING TYPE	CALL FOR PRICE
3007P	ANSI	1/2"	0.5150	0.520	0.385	1.10	0.460	0.320	0.100	---	0.650	0.169	45°	---	---	
3007CP	ANSI	1/2"	0.5150	0.520	0.385	1.10	0.460	0.320	0.100	0.187	0.650	0.169	45°	---	---	
3007MP	ANSI	M12	0.5150	0.520	0.385	1.10	0.460	0.320	0.100	---	0.650	0.169	45°	---	---	
4004	ISO	M16	0.6693	0.746	0.510	1.75	0.646	0.439	0.128	---	0.886	0.315	45°	---	---	
4004C	ISO	M16	0.6693	0.746	0.510	1.75	0.646	0.439	0.128	0.289	0.886	0.315	45°	---	---	
4040P	ANSI	5/8"	0.6409	0.740	0.490	1.62	0.640	0.440	0.120	---	0.940	0.169	45°	---	---	
4040CP	ANSI	5/8"	0.6409	0.740	0.490	1.62	0.640	0.440	0.120	0.281	0.940	0.169	45°	---	---	
4040MP	ANSI	M16	0.6409	0.740	0.490	1.62	0.640	0.440	0.120	---	0.940	0.169	45°	---	---	
4040MCP	ANSI	M16	0.6409	0.740	0.490	1.62	0.640	0.440	0.120	0.281	0.940	0.169	45°	---	---	
4040MPBT	ANSI	M16	0.6693	0.740	0.490	1.74	0.752	0.552	0.232	---	0.940	0.169	45°	---	---	
4040MCPBT	ANSI	M16	0.6693	0.740	0.490	1.74	0.752	0.552	0.232	0.281	0.940	0.169	45°	---	---	
4040MCPN17	ANSI	M16	0.6693	0.740	0.490	1.62	0.640	0.440	0.120	0.281	0.940	0.169	45°	---	---	
4040MCPOOG	ANSI	M16	0.6409	0.740	0.490	1.62	0.640	0.440	0.120	0.281	0.940	0.169	45°	Y	G	
4507	ISO	M20	0.8268	0.947	0.642	2.20	0.825	0.585	0.167	---	1.181	0.354	45°	---	---	
4507C	ISO	M20	0.8268	0.947	0.642	2.20	0.825	0.585	0.167	0.364	1.181	0.354	45°	---	---	
4510P	ANSI	3/4"	0.7660	0.940	0.605	1.80	0.820	0.580	0.160	---	1.200	0.169	45°	---	---	
4510CP	ANSI	3/4"	0.7660	0.940	0.605	1.80	0.820	0.580	0.160	0.375	1.200	0.169	45°	---	---	
5005P	ANSI	1"	1.0303	1.140	0.820	2.30	1.000	0.700	0.200	---	1.440	0.203	45°	---	---	
5005CP	ANSI	1"	1.0303	1.140	0.820	2.30	1.000	0.700	0.200	0.468	1.440	0.203	45°	---	---	
5005CPOC	ANSI	1"	1.0303	1.140	0.820	2.30	1.000	0.700	0.200	0.468	1.440	0.203	45°	---	C	
5005MPBT	ANSI	M24	0.9843	1.140	0.820	2.57	0.992	0.692	0.315	---	1.440	0.203	45°	---	---	
5005MCPBT	ANSI	M24	0.9843	1.140	0.820	2.57	0.992	0.692	0.315	0.468	1.440	0.203	45°	---	---	
5005MCPBTD58	ANSI	M24	0.9843	1.140	0.820	2.30	0.992	0.692	0.315	0.468	1.440	0.203	45°	---	---	
5015	ISO	M25	0.9843	1.146	0.772	2.58	1.006	0.707	0.207	---	1.457	0.433	45°	---	---	
5015C	ISO	M25	0.9843	1.146	0.772	2.58	1.006	0.707	0.207	0.455	1.457	0.433	45°	---	---	
6007P	ANSI	1.1/4"	1.2800	1.460	1.045	3.20	1.500	1.080	0.300	---	2.140	0.295	45°	---	---	
6007CP	ANSI	1.1/4"	1.2800	1.460	1.045	3.20	1.500	1.080	0.300	0.500	2.140	0.295	45°	---	---	



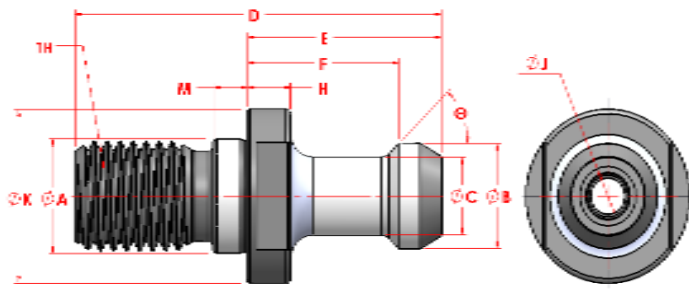
DIN TYPE
DIN 69872
FORM A
FORM B
FORM AD

ORDERING CODE	TYPE	TH	A	B	C	D	E	F	H	J	K	M	θ	SEAL RING ON PILOT	COOLANT 'O' RING TYPE	CALL FOR PRICE
3008	DIN	M12	0.5118	0.512	0.354	1.73	0.945	0.748	0.157	---	0.669	0.236	15°	---	---	
3009	DIN	M12	0.5118	0.512	0.354	1.73	0.945	0.748	0.157	0.157	0.669	0.236	15°	---	---	
3009BT	DIN	M12	0.4921	0.512	0.354	1.73	0.945	0.748	0.157	0.157	0.669	0.236	15°	---	---	
4003	DIN	M12	0.6693	0.748	0.551	2.13	1.024	0.787	0.157	---	0.906	0.315	15°	---	---	
4003O	DIN	M12	0.6693	0.748	0.551	2.13	1.024	0.787	0.157	---	0.906	0.315	15°	Y	---	
4003I	DIN	5/8"	0.6409	0.748	0.551	2.13	1.024	0.787	0.157	---	0.906	0.315	15°	---	---	
4007	DIN	M16	0.6693	0.748	0.551	2.13	1.024	0.787	0.157	0.276	0.906	0.315	15°	---	---	
4007O	DIN	M16	0.6693	0.748	0.551	2.13	1.024	0.787	0.157	0.276	0.906	0.315	15°	Y	---	
4007OOT	DIN	M16	0.6693	0.748	0.551	2.13	1.024	0.787	0.157	0.276	0.906	0.315	15°	Y	T	
4007I	DIN	5/8"	0.6409	0.748	0.551	2.13	1.024	0.787	0.157	0.276	0.906	0.315	15°	---	---	
4511	DIN	M20	0.8268	0.906	0.669	2.56	1.181	0.906	0.197	0.374	1.181	0.354	15°	---	---	
4512	DIN	M20	0.8268	0.906	0.669	2.56	1.181	0.906	0.197	---	1.181	0.354	15°	---	---	
5004	DIN	M24	0.9843	1.102	0.827	2.91	1.339	0.984	0.197	0.453	1.417	0.433	15°	---	---	
5004O	DIN	M24	0.9843	1.102	0.827	2.91	1.339	0.984	0.197	0.453	1.417	0.433	15°	Y	---	
5004I	DIN	1"	1.0303	1.102	0.827	2.91	1.339	0.984	0.197	0.453	1.417	0.203	15°	---	---	
5032	DIN	M24	0.9843	1.102	0.827	2.91	1.339	0.984	0.197	---	1.417	0.433	15°	---	---	
5032O	DIN	M24	0.9843	1.102	0.827	2.91	1.339	0.984	0.197	---	1.417	0.433	15°	Y	---	
5032I	DIN	1"	1.0303	1.102	0.827	2.91	1.339	0.984	0.197	---	1.417	0.203	15°	---	---	



ISO TYPE
JIS B4339
ISO7388/2-A

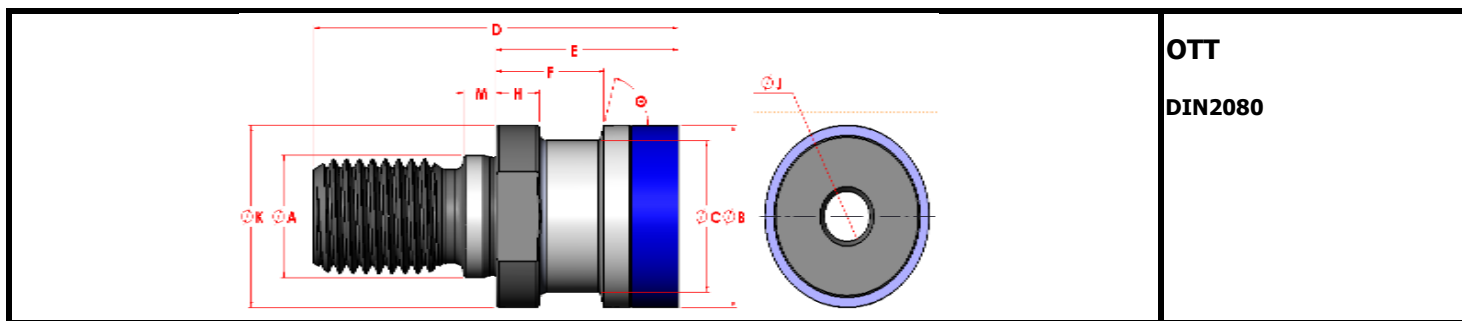
ORDERING CODE	TYPE	TH	A	B	C	D	E	F	H	J	K	M	θ	SEAL RING ON PILOT	COOLANT 'O' RING TYPE	CALL FOR PRICE
4012	ISO	M16	0.6693	0.748	0.551	2.13	1.024	0.787	0.157	---	0.906	0.315	15°	---	---	
4012C	ISO	M16	0.6693	0.748	0.551	2.13	1.024	0.787	0.157	0.276	0.906	0.315	15°	---	---	
4012I	ISO	5/8"	0.6409	0.748	0.551	2.01	0.911	0.675	0.157	---	0.906	0.169	15°	---	---	
4012IC	ISO	5/8"	0.6409	0.748	0.551	2.13	0.911	0.675	0.157	0.276	0.906	0.169	15°	---	---	
4013	JIS	M16	0.6693	0.748	0.551	2.13	1.142	0.906	0.276	---	0.906	0.276	15°	---	---	
4013O	JIS	M16	0.6693	0.748	0.551	2.13	1.142	0.906	0.276	---	0.906	0.276	15°	Y	---	
4013C	JIS	M16	0.6693	0.748	0.551	2.13	1.142	0.906	0.276	0.276	0.906	0.276	15°	---	---	
4013CO	JIS	M16	0.6693	0.748	0.551	2.13	1.142	0.906	0.276	0.276	0.906	0.276	15°	Y	---	
4013COOT	JIS	M16	0.6693	0.748	0.551	2.13	1.142	0.906	0.276	0.276	0.906	0.276	15°	Y	T	
4013IC	JIS	5/8"	0.6409	0.748	0.551	2.01	1.030	0.793	0.276	0.276	0.906	0.169	15°	---	---	
4013ICO	JIS	5/8"	0.6410	0.748	0.551	2.01	1.030	0.793	0.276	0.276	0.906	0.169	15°	Y	---	
4508	ISO	M20	0.8268	0.906	0.669	2.56	1.181	0.906	0.197	---	1.181	0.354	15°	---	---	
4508C	ISO	M20	0.8268	0.906	0.669	2.56	1.181	0.906	0.197	0.374	1.181	0.354	15°	---	---	
5015	ISO	M24	0.9843	1.102	0.827	2.91	1.339	0.984	0.197	---	1.417	0.433	15°	---	---	
5015C	ISO	M24	0.9843	1.102	0.827	2.91	1.339	0.984	0.197	0.453	1.417	0.433	15°	---	---	
5015I	ISO	1"	1.0303	1.102	0.827	2.92	1.346	0.992	0.197	---	1.417	0.203	15°	---	---	
5015IC	ISO	1"	1.0303	1.102	0.827	2.92	1.346	0.992	0.197	0.453	1.417	0.203	15°	---	---	
5037	JIS	M24	0.9843	1.102	0.827	2.91	1.339	0.984	0.276	---	1.496	0.374	15°	---	---	
5037C	JIS	M24	0.9843	1.102	0.827	2.91	1.339	0.984	0.276	0.453	1.496	0.374	15°	---	---	
5037IC	JIS	1"	1.0303	1.102	0.827	2.92	1.346	0.992	0.276	0.453	1.496	0.203	15°	---	---	
5037I	JIS	1"	1.0303	1.102	0.827	2.92	1.346	0.992	0.276	---	1.496	0.203	15°	---	---	



MAS-BT TYPE
MAS 403
JIS B4339

ORDERING CODE	TYPE	THD	A	B	C	D	E	F	H	J	K	M	θ	SEAL RING ON PILOT	COOLANT 'O' RING TYPE	CALL FOR PRICE
3001	BT	M12	0.4921	0.433	0.276	1.69	0.906	0.709	0.197	---	0.650	0.157	45°	---	---	
3001C	BT	M12	0.4921	0.433	0.276	1.69	0.906	0.709	0.197	0.118	0.650	0.157	45°	---	---	
3002	BT	M12	0.4921	0.433	0.276	1.69	0.906	0.709	0.197	---	0.650	0.157	60°	---	---	
3002C	BT	M12	0.4921	0.433	0.295	1.69	0.906	0.709	0.197	0.118	0.650	0.157	60°	---	---	
3002NBR	BT	M12	0.4921	0.433	0.276	1.69	0.906	0.709	0.197	0.098	0.650	0.157	60°	---	---	
3002CNBR	BT	M12	0.4921	0.433	0.276	1.69	0.906	0.709	0.197	---	0.650	0.157	60°	---	---	
3005NNT	BT	M12	0.4921	0.402	0.315	1.42	0.787	0.630	0.118	---	0.709	0.197	45°	---	---	
3501	BT	M12	0.4921	0.551	0.315	1.77	0.906	0.709	0.197	---	0.787	0.157	45°	---	---	
3502	BT	M12	0.4921	0.551	0.315	1.77	0.906	0.709	0.197	---	0.787	0.157	60°	---	---	
3503	BT	M12	0.4921	0.551	0.315	1.77	0.906	0.709	0.197	---	0.787	0.157	90°	---	---	
4001	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	---	0.906	0.197	45°	---	---	
4001O	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	---	0.906	0.315	45°	Y	---	
4001C	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	0.157	0.906	0.197	45°	---	---	
4001CO	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	0.157	0.906	0.315	45°	Y	---	
4001COOC	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	0.157	0.906	0.315	45°	Y	C	
4001COOG	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	0.157	0.906	0.315	45°	Y	G	
4002	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	---	0.906	0.197	60°	---	---	
4002C	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	0.157	0.906	0.197	60°	---	---	
4011	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	---	0.906	0.197	90°	---	---	
4011C	BT	M16	0.6693	0.591	0.394	2.36	1.378	1.102	0.236	0.157	0.906	0.197	90°	---	---	
4016IP	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	---	0.906	0.169	45°	---	---	
4016ICP	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	0.173	0.906	0.169	45°	---	---	
4016ICOOG	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	0.173	0.906	0.169	45°	---	G	
4016MCPBT	BT	M16	0.6693	0.591	0.394	2.25	1.266	0.990	0.236	0.173	0.906	0.169	45°	---	---	
4016MPBT	BT	M16	0.6693	0.591	0.394	2.25	1.266	0.990	0.236	---	0.906	0.169	45°	---	---	
4016IPCW315	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	---	0.906	0.169	45°	---	---	
4016ICPCW315	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	0.173	0.906	0.169	45°	---	---	
4063IP	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	---	0.906	0.169	90°	---	---	
4063ICP	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	0.173	0.906	0.169	90°	---	---	
4063IPCW315	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	---	0.906	0.169	90°	---	---	
4063MPBT	BT	M16	0.6693	0.591	0.394	2.25	1.266	0.990	0.236	---	0.906	0.169	90°	---	---	
4063MCPBT	BT	M16	0.6693	0.591	0.394	2.25	1.266	0.990	0.236	0.173	0.906	0.169	90°	---	---	
4067IP	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	---	0.906	0.169	60°	---	---	
4067ICP	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	0.173	0.906	0.169	60°	---	---	
4067IPCW315	BT	5/8"	0.6409	0.591	0.394	2.25	1.266	0.990	0.236	---	0.906	0.169	60°	---	---	
4067MPBT	BT	M16	0.6693	0.591	0.394	2.25	1.266	0.990	0.236	---	0.906	0.169	60°	---	---	
4067MCPBT	BT	M16	0.6693	0.591	0.394	2.25	1.266	0.990	0.236	0.173	0.906	0.169	60°	---	---	
4501	BT	M20	0.8268	0.748	0.551	2.76	1.575	1.220	0.315	---	1.220	0.236	45°	---	---	
4502	BT	M20	0.8268	0.748	0.551	2.76	1.575	1.220	0.315	---	1.220	0.236	60°	---	---	
4503	BT	M20	0.8268	0.748	0.551	2.76	1.575	1.220	0.315	---	1.220	0.236	90°	---	---	
5001	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	---	1.496	0.315	45°	---	---	
5001C	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.315	45°	---	---	

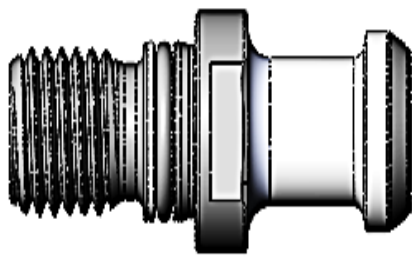
5001CI	BT	1"	1.0303	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.203	45°	---	---	
5001CO	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.315	45°	Y	---	
5001COOC	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.315	45°	Y	C	
5001I	BT	1"	1.0303	0.906	0.669	3.35	1.772	1.378	0.394	---	1.496	0.203	45°	---	---	
5001ICT	BT	1"	1.0303	0.906	0.669	3.35	1.780	1.386	0.394	0.311	1.496	0.203	45°	---	---	
5001ICOCT	BT	1"	1.0303	0.906	0.669	3.35	1.780	1.386	0.394	0.311	1.496	0.203	45°	Y	---	
5001ICOCTSB	BT	1"	1.0303	0.906	0.669	3.35	1.780	1.386	0.394	0.311	1.496	0.203	45°	Y	---	
5002	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	---	1.496	0.315	60°	---	---	
5002C	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.315	60°	---	---	
5002I	BT	1"	1.0303	0.906	0.669	3.35	1.772	1.378	0.394	---	1.496	0.203	60°	---	---	
5002IC	BT	1"	1.0303	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.203	60°	---	---	
5002ICOCT	BT	1"	1.0303	0.906	0.669	3.35	1.780	1.386	0.394	0.311	1.496	0.203	60°	---	---	
5009	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	---	1.496	0.315	90°	---	---	
5009C	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.315	90°	---	---	
5009COOC	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.315	90°	Y	C	
5009COOG	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.315	90°	Y	G	
5009COOTT	BT	M24	0.9843	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.315	90°	Y	TT	
5009I	BT	1"	1.0303	0.906	0.669	3.35	1.772	1.378	0.394	---	1.496	0.203	90°	---	---	
5009IC	BT	1"	1.0303	0.906	0.669	3.35	1.772	1.378	0.394	0.311	1.496	0.203	90°	---	---	
5009ICOCT	BT	1"	1.0303	0.906	0.669	3.35	1.780	1.386	0.394	0.311	1.496	0.203	90°	Y	---	



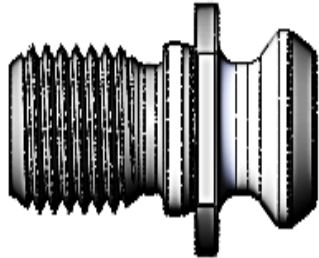
OTT
DIN2080

ORDERING CODE	TYPE	TH	A	B	C	D	E	F	H	J	K	M	θ	SEAL RING ON PILOT	COOLANT 'O' RING TYPE	CALL FOR PRICE
4042BT	OTT	M16	0.6693	0.831	0.996	2.20	1.102	0.654	0.264	---	0.996	0.197	15	---	---	
4042CBT	OTT	M16	0.6693	0.831	0.996	2.20	1.102	0.654	0.264	0.289	0.996	0.197	15	---	---	
4042SK	OTT	M16	0.6693	0.831	0.996	2.09	0.990	0.541	0.264	---	0.996	0.197	15	---	---	
4042CSK	OTT	M16	0.6693	0.831	0.996	2.09	0.990	0.541	0.264	0.289	0.996	0.197	15	---	---	
4042CSKM16	OTT	M16	0.6693	0.831	0.996	2.09	0.990	0.541	0.264	0.289	0.996	0.197	15	---	---	
4042I	OTT	5/8"	0.6409	0.831	0.996	2.09	0.990	0.541	0.264	---	0.996	0.169	15	---	---	
4042IC	OTT	5/8"	0.6409	0.831	0.996	2.09	0.990	0.541	0.264	0.289	0.996	0.169	15	---	---	
5041	OTT	M24	0.9843	1.260	1.559	2.56	0.984	0.526	0.157	---	1.559	0.394	15	---	---	
5041C	OTT	M24	0.9843	1.260	1.559	2.56	0.984	0.526	0.157	0.433	1.559	0.394	15	---	---	
5041I	OTT	1"	1.0303	1.260	1.559	2.57	0.992	0.533	0.242	---	1.559	0.203	15	---	---	
5041IC	OTT	1"	1.0303	1.260	1.559	2.57	0.992	0.533	0.242	0.433	1.559	0.203	15	---	---	
5041ICM24	OTT	1"	1.0303	1.260	1.559	2.57	0.992	0.533	0.242	0.433	1.559	0.203	15	---	---	

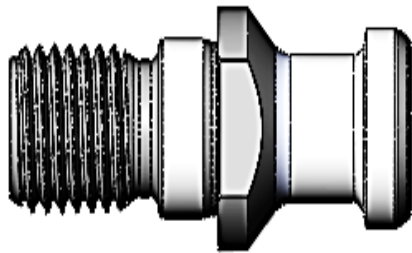
PULL STUD IDENTIFICATION & SELECTION



IS11173/TYPE 1
JIS-B6339
ISO7388/2-TYPE A

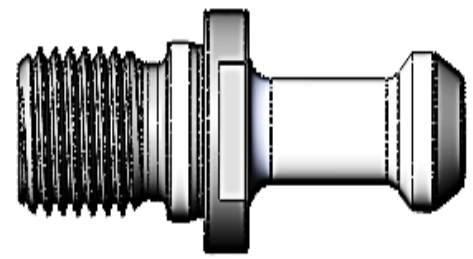


IS11173/TYPE 2
ANSI B5.50
ISO7388/2-TYPE B

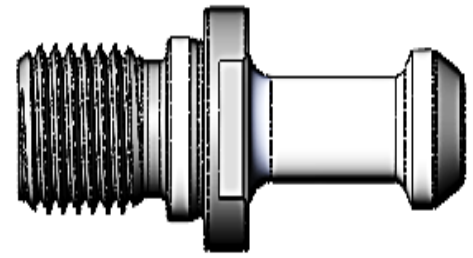


DIN 69872
FORM-A FORM-AD
FORM-B

IS11173/TYPE 3
MAS-BT 45°



IS11173/TYPE 4
MAS-BT 60°



IS11173/TYPE 5
MAS-BT 90°

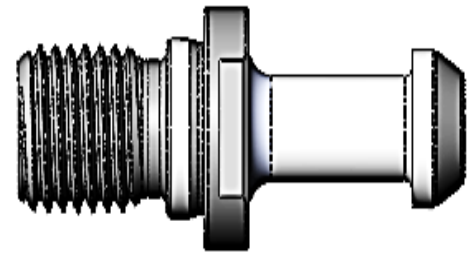
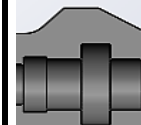


FIG 1

- ❖ **Retention Knobs (RK)**, the weakest part in the Spindle & Tool System and shall be of impeccable quality.
- ❖ **Material:** High Alloy Carburizing Steel with certified Hardenability
- ❖ Soft Threads, Soft & super-finished holes.
- ❖ Every Batch Samples tested for desired **Tensile Strength (1400-1800 N/mm²)**.
- ❖ Each RK **proof tested** at force of at least 2 times the Clamping Force on the machine
- ❖ **Magnetic Particle Testing** conducted on each RK to ensure physical soundness.
- ❖ Tolerances are **much reduced** for uniform and guaranteed draw bar Clamping Force.
- ❖ **Radii Design and blending** of highest order & uniformity with tolerance within close limits.
- ❖ **Rolled Threads** make the Knobs stronger by 15-20%.
- ❖ Finish Grinding only on **CNC Grinders** with Auto-Dressing and IPG.
- ❖ Select **Right Pull Stud** for your Machine. Before use, check with Draw Bar Force Gage for adequate Force

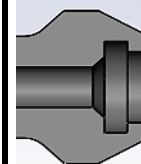
O RING TYPES



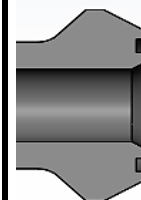
TYPE 'G'
'O' RING IN
GROOVE



TYPE 'T'
'O' RING IN
TAPER



TYPE 'C'
'O' RING IN
COUNTER



TYPE 'F'
'O' RING IN
FACE