

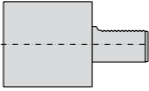
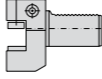

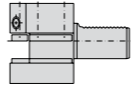
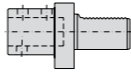
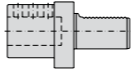
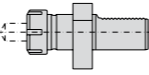
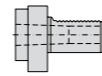
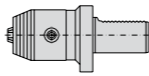
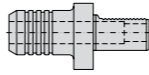
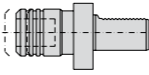
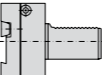
Static Toolholders DIN 69880

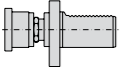
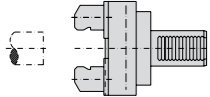

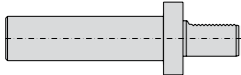

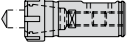



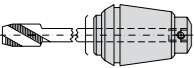

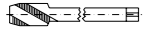
WTO
Higher Productivity

ISO 9001

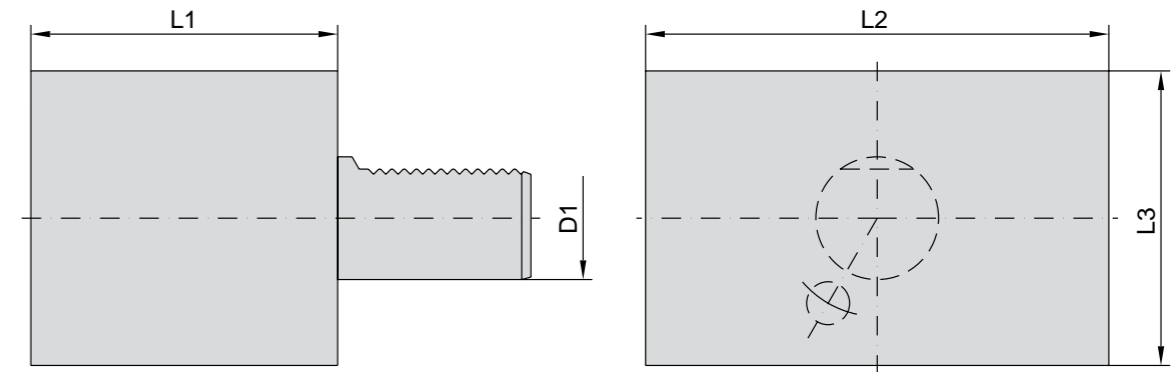


High Precision and Rigidity

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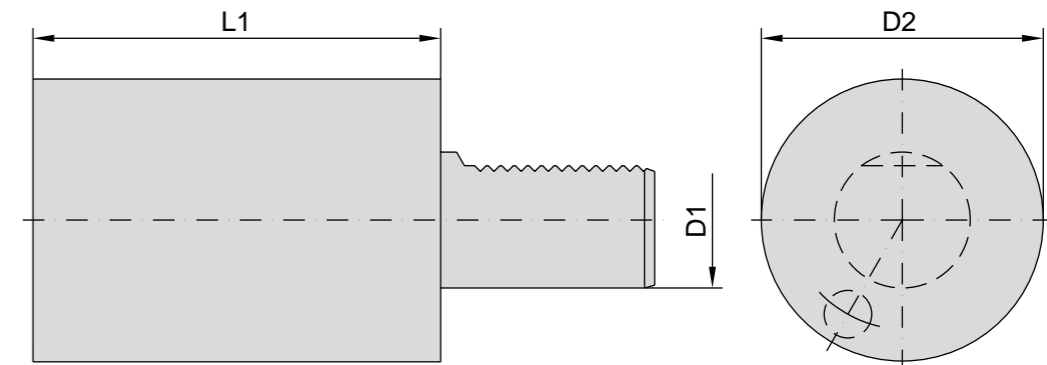
Toolholder Blank rectangular, Form A1



48-A1-...

Item No	D1	L1	L2	L3
48-A1-16x44	16	44	78	44
48-A1-20x55	20	55	100	50
48-A1-25x78	25	75	100	50
48-A1-30x85	30	85	130	78
48-A1-40x100	40	100	151	96
48-A1-50x125	50	125	160	120
48-A1-60x150	60	150	185	125

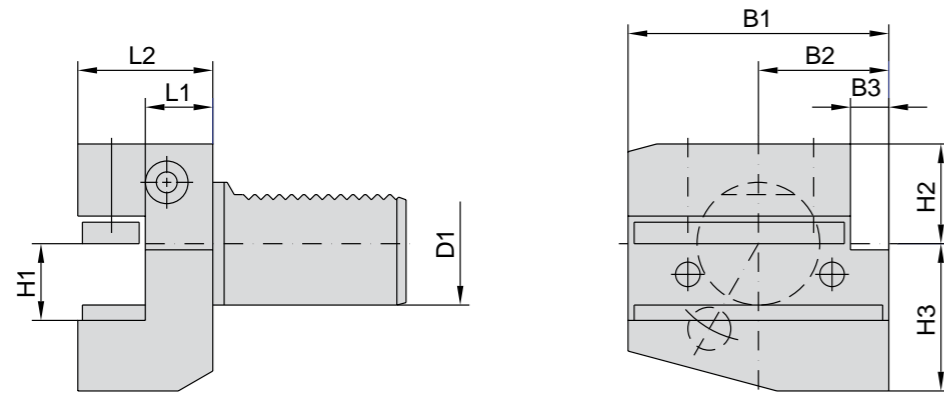
Toolholder Blank, round, Form A2



48-A2-...

Item No	D1	D2	L1
48-A2-16x60	16	40	60
48-A2-20x70	20	50	70
48-A2-25x80	25	50	80
48-A2-25x200	25	53	200
48-A2-30x100	30	68	100
48-A2-30x240	30	68	240
48-A2-40x120	40	83	120
48-A2-40x320	40	83	320
48-A2-60x150	60	98	150
48-A2-60x400	60	98	400
48-A2-60x150	60	123	150
48-A2-60x480	60	123	480

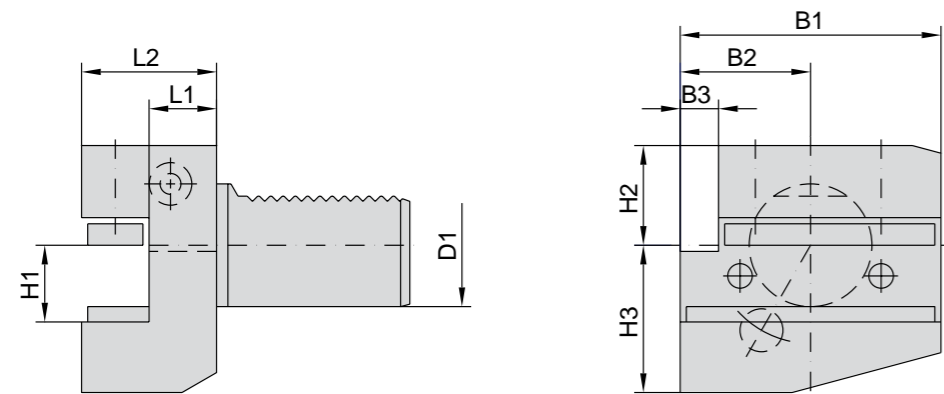
Radial Square Toolholder, right hand, short, Form B1



48-B1-...

Item No	D1	H1	B1	B2	B3	H2	H3	L1	L2
48-B1-16x12	16	12	42	23	5	20	22	13	24
48-B1-16x12x34	16	12	42	23	5	20	22	23	34
48-B1-20x16	20	16/12	55	30	7	25	30	16	30
48-B1-20x16x40	20	16/12	55	30	7	25	30	26	40
48-B1-25x16	25	16/12	55	30	7	25	30	16	30
48-B1-25x16x40	25	16/12	55	30	7	25	30	26	40
48-B1-30x20	30	20/16	70	35	10	28	28	22	40
48-B1-30x20x60	30	20/16	70	35	10	28	28	42	60
48-B1-40x25	40	25/20	85	42.5	12.5	32.5	46	22	44
48-B1-50x32	50	32/25	100	50	16	35	50	30	55
48-B1-60x32	60	32/25	125	62.5	16	42.5	62.5	30	60

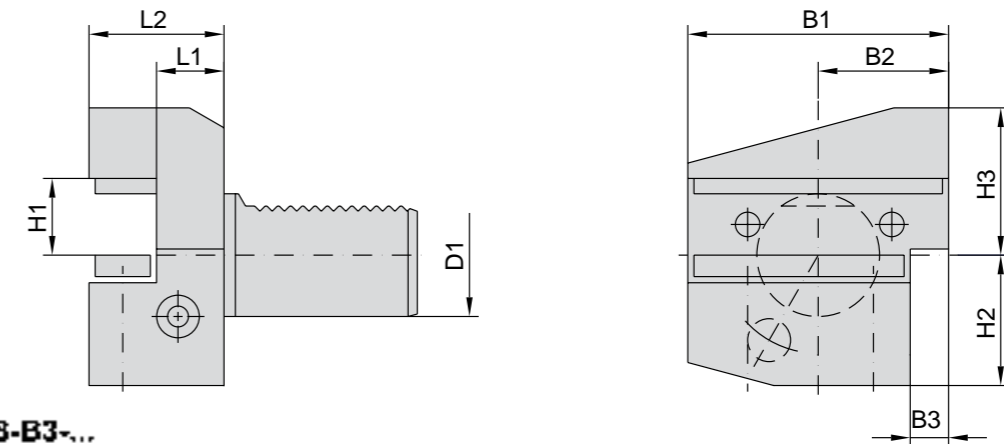
Radial Square Toolholder, left hand, short, Form B2



48-B2-...

Item No	D1	H1	B1	B2	B3	H2	H3	L1	L2
48-B2-16x12	16	12	42	23	5	20	22	13	24
48-B2-16x12x34	16	12	42	23	5	20	22	23	34
48-B2-20x16	20	16/12	55	30	7	25	30	16	30
48-B2-20x16x40	20	16/12	55	30	7	25	30	26	40
48-B2-25x16	25	16/12	55	30	7	25	30	16	30
48-B2-25x16x40	25	16/12	55	30	7	25	30	26	40
48-B2-30x20	30	20/16	70	35	10	28	28	22	40
48-B2-30x20x60	30	20/16	70	35	10	28	28	42	60
48-B2-40x25	40	25/20	85	42.5	12.5	32.5	46	22	44
48-B2-50x32	50	32/25	100	50	16	35	50	30	55
48-B2-60x32	60	32/25	125	62.5	16	42.5	62.5	30	60

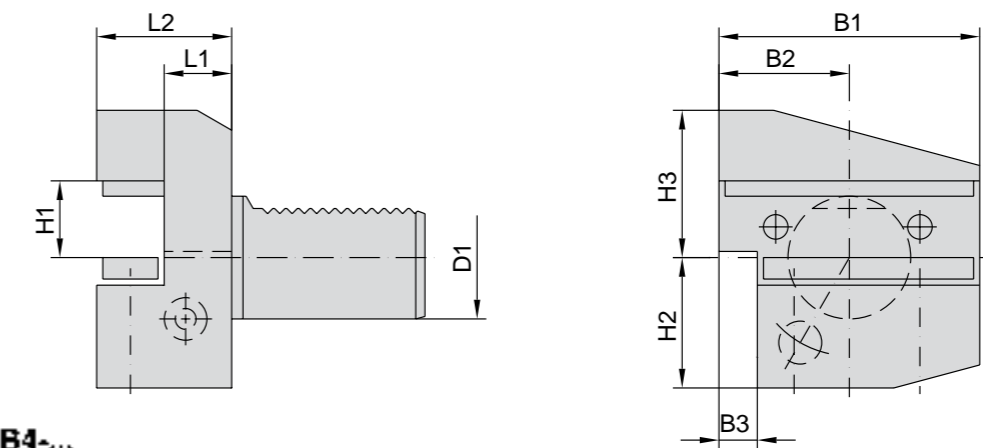
Radial Square Toolholder, right hand inverted, short, Form B3



48-B3-...

Item No	D1	H1	B1	B2	B3	H2	H3	L1	L2
48-B3-16x12	16	12	42	23	5	20	22	13	24
48-B3-16x12x34	16	12	42	23	5	20	22	23	34
48-B3-20x16	20	16/12	55	30	7	25	30	16	30
48-B3-20x16x40	20	16/12	55	30	7	25	30	26	40
48-B3-25x16	25	16/12	55	30	7	25	30	16	30
48-B3-25x16x40	25	16/12	55	30	7	25	30	26	40
48-B3-30x20	30	20/16	70	35	10	28	28	22	40
48-B3-30x20x60	30	20/16	70	35	10	28	28	42	60
48-B3-40x25	40	25/20	85	42.5	12.5	32.5	46	22	44
48-B3-50x32	50	32/25	100	50	16	35	50	30	55
48-B3-60x32	60	32/25	125	62.5	16	42.5	62.5	30	60

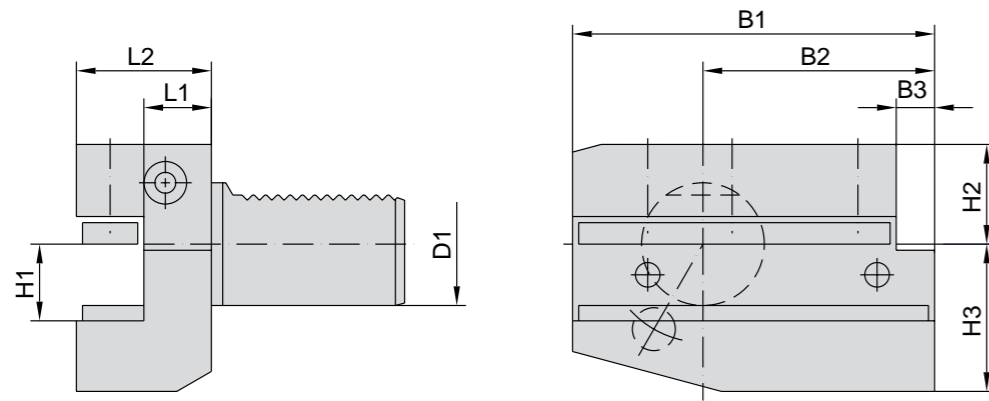
Radial Square Toolholder, left hand inverted, short, Form B4



48-B4-...

Item No	D1	H1	B1	B2	B3	H2	H3	L1	L2
48-B4-16x12	16	12	42	23	5	20	22	13	24
48-B4-16x12x34	16	12	42	23	5	20	22	23	34
48-B4-20x16	20	16/12	55	30	7	25	30	16	30
48-B4-20x16x40	20	16/12	55	30	7	25	30	26	40
48-B4-25x16	25	16/12	55	30	7	25	30	16	30
48-B4-25x16x40	25	16/12	55	30	7	25	30	26	40
48-B4-30x20	30	20/16	70	35	10	28	28	22	40
48-B4-30x20x60	30	20/16	70	35	10	28	28	42	60
48-B4-40x25	40	25/20	85	42.5	12.5	32.5	46	22	44
48-B4-50x32	50	32/25	100	50	16	35	50	30	55
48-B4-60x32	60	32/25	125	62.5	16	42.5	62.5	30	60

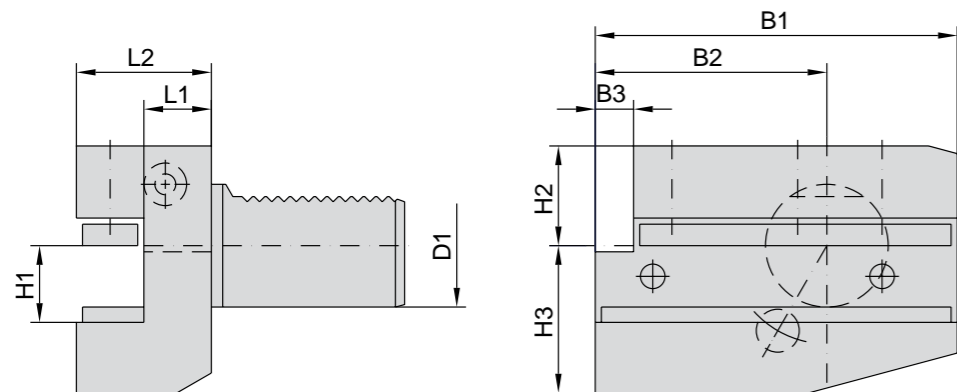
Radial Square Toolholder, right hand, long, Form B5



48-B5-...

Item No	D1	H1	B1	B2	B3	H2	H3	L1	L2
48-B5-16x12	16	12	58	39	5	20	22	13	24
48-B5-16x12x34	16	12	58	39	5	20	22	23	34
48-B5-20x16	20	16/12	75	50	7	25	30	16	30
48-B5-20x16x40	20	16/12	75	50	7	25	30	26	40
48-B5-25x16	25	16/12	75	50	7	25	30	16	30
48-B5-25x16x40	25	16/12	75	50	7	25	30	26	40
48-B5-30x20	30	20/16	100	65	10	28	38	22	40
48-B5-30x20x80	30	20/16	100	65	10	28	38	42	80
48-B5-40x25	40	25/20	118	75.5	12.5	32.5	40	22	44
48-B5-50x32	50	32/25	130	80	15	35	45	30	55
48-B5-60x32	60	32/25	145	82.5	15	42.5	52.5	30	60

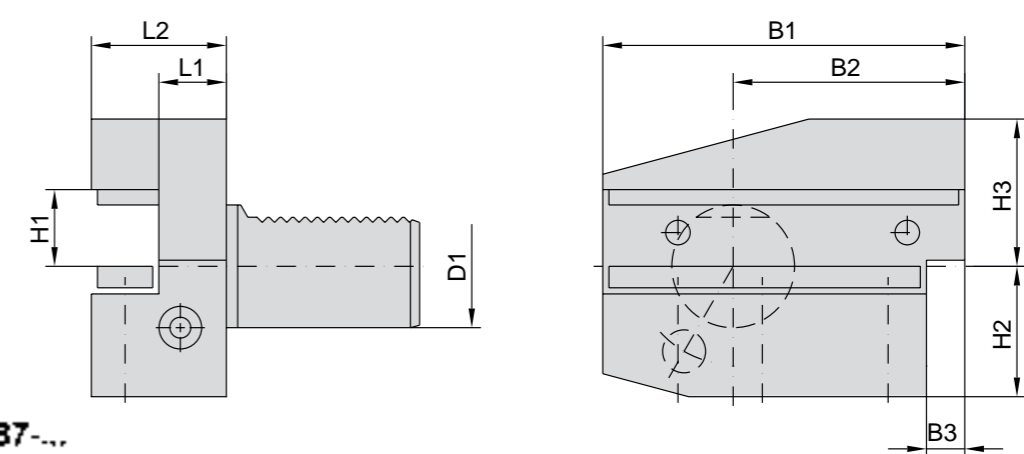
Radial Square Toolholder, left hand, long, Form B6



48-B6-...

Item No	D1	H1	B1	B2	B3	H2	H3	L1	L2
48-B6-16x12	16	12	58	39	5	20	22	13	24
48-B6-16x12x34	16	12	58	39	5	20	22	23	34
48-B6-20x16	20	16/12	75	50	7	25	30	16	30
48-B6-20x16x40	20	16/12	75	50	7	25	30	26	40
48-B6-25x16	25	16/12	75	50	7	25	30	16	30
48-B6-25x16x40	25	16/12	75	50	7	25	30	26	40
48-B6-30x20	30	20/16	100	65	10	28	38	22	40
48-B6-30x20x80	30	20/16	100	65	10	28	38	42	80
48-B6-40x25	40	25/20	118	75.5	12.5	32.5	40	22	44
48-B6-50x32	50	32/25	130	80	15	35	45	30	55
48-B6-60x32	60	32/25	145	82.5	15	42.5	52.5	30	60

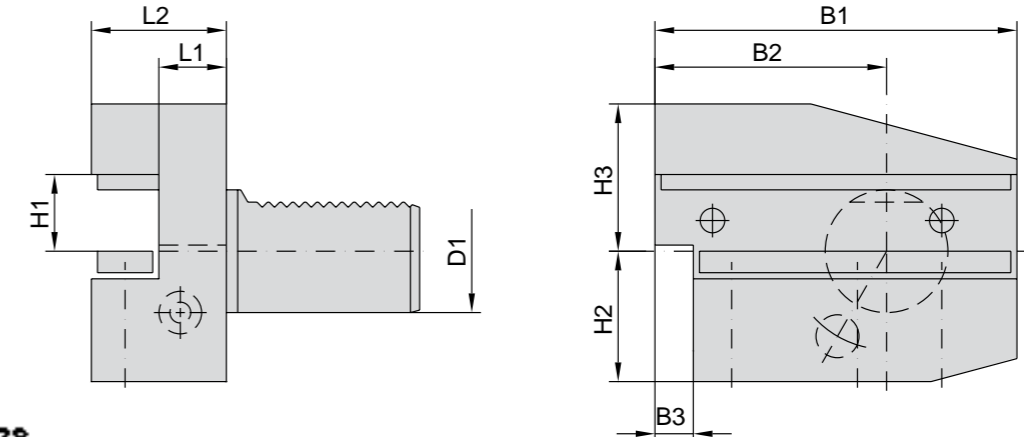
Radial Square Toolholder, right hand inverted, long, Form B7



48-B7-...

Item No	D1	H1	B1	B2	B3	H2	H3	L1	L2
48-B7-16x12	16	12	58	39	5	20	22	13	24
48-B7-16x12x34	16	12	58	39	5	20	22	23	34
48-B7-20x16	20	16/12	75	50	7	25	30	16	30
48-B7-20x16x40	20	16/12	75	50	7	25	30	26	40
48-B7-25x16	25	16/12	75	50	7	25	30	16	30
48-B7-25x16x40	25	16/12	75	50	7	25	30	26	40
48-B7-30x20	30	20/16	100	65	10	28	38	22	40
48-B7-30x20x80	30	20/16	100	65	10	28	38	42	80
48-B7-40x25	40	25/20	118	75.5	12.5	32.5	40	22	44
48-B7-50x32	50	32/25	130	80	15	35	45	30	55
48-B7-60x32	60	32/25	145	82.5	15	42.5	52.5	30	60

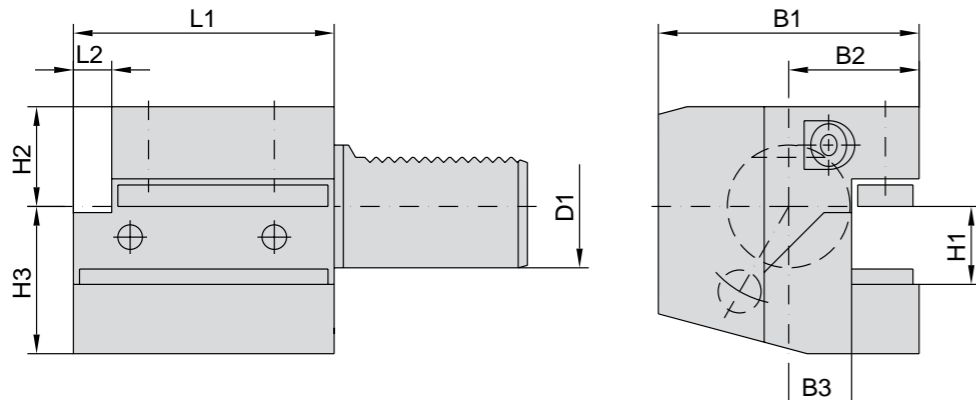
Radial Square Toolholder, left hand inverted, long, Form B8



48-B8-...

Item No	D1	H1	B1	B2	B3	H2	H3	L1	L2
48-B8-16x12	16	12	58	39	5	20	22	13	24
48-B8-16x12x34	16	12	58	39	5	20	22	23	34
48-B8-20x16	20	16/12	75	50	7	25	30	16	30
48-B8-20x16x40	20	16/12	75	50	7	25	30	26	40
48-B8-25x16	25	16/12	75	50	7	25	30	16	30
48-B8-25x16x40	25	16/12	75	50	7	25	30	26	40
48-B8-30x20	30	20/16	100	65	10	28	38	22	40
48-B8-30x20x80	30	20/16	100	65	10	28	38	42	80
48-B8-40x25	40	25/20	118	75.5	12.5	32.5	40	22	44
48-B8-50x32	50	32/25	130	80	15	35	45	30	55
48-B8-60x32	60	32/25	145	82.5	15	42.5	52.5	30	60

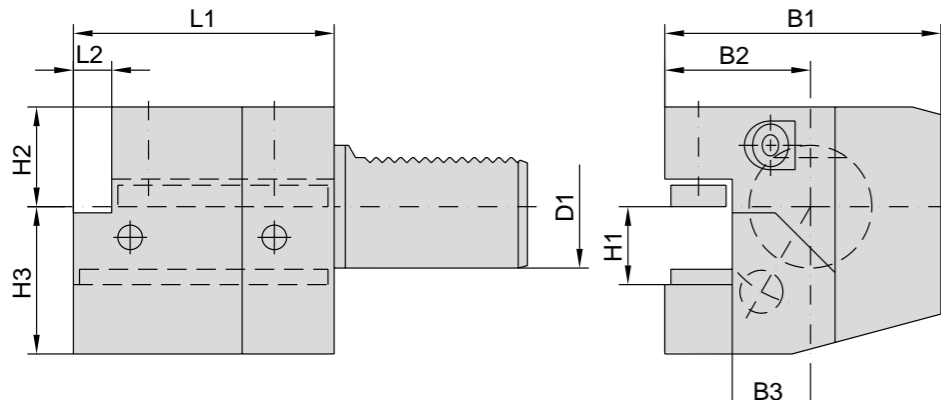
Axial Square Toolholder right hand, Form C1



48-C1-...

Item No.	D1	H1	B1	B2	B3	H2	H3	..1	..2
48-C1-16x12	16	12	43	24	13	20	22	44	5
48-C1-20x16	20	16x12	65	40	26	25	30	50	-
48-C1-25x16	25	16x12	58	33	19	25	30	55	7
48-C1-30x20	30	20x16	76	41	23	28	38	70	10
48-C1-40x25	40	25x20	90	47.5	25.5	32.5	48	85	12.5
48-C1-50x32	50	32x25	105	55	30.5	38	50	100	16
48-C1-60x32	60	32x25	125	62.5	33	42.5	62.5	125	16

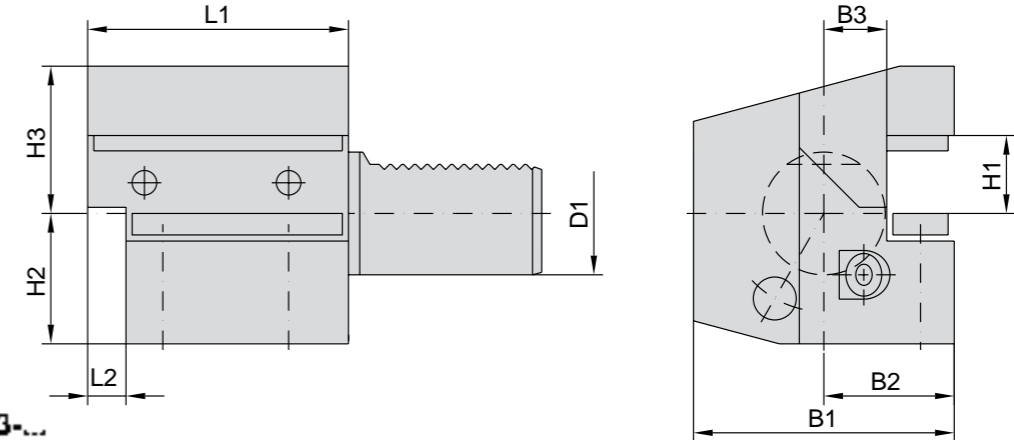
Axial Square Toolholder left hand, Form C2



48-C2-...

Item No.	D1	H1	B1	B2	B3	H2	H3	..1	..2
48-C2-16x12	16	12	43	24	13	20	22	44	5
48-C2-20x16	20	16x12	65	40	26	25	30	50	-
48-C2-25x16	25	16x12	58	33	19	25	30	55	7
48-C2-30x20	30	20x16	76	41	23	28	38	70	10
48-C2-40x25	40	25x20	90	47.5	25.5	32.5	48	85	12.5
48-C2-50x32	50	32x25	105	55	30.5	38	50	100	16
48-C2-60x32	60	32x25	125	62.5	33	42.5	62.5	125	16

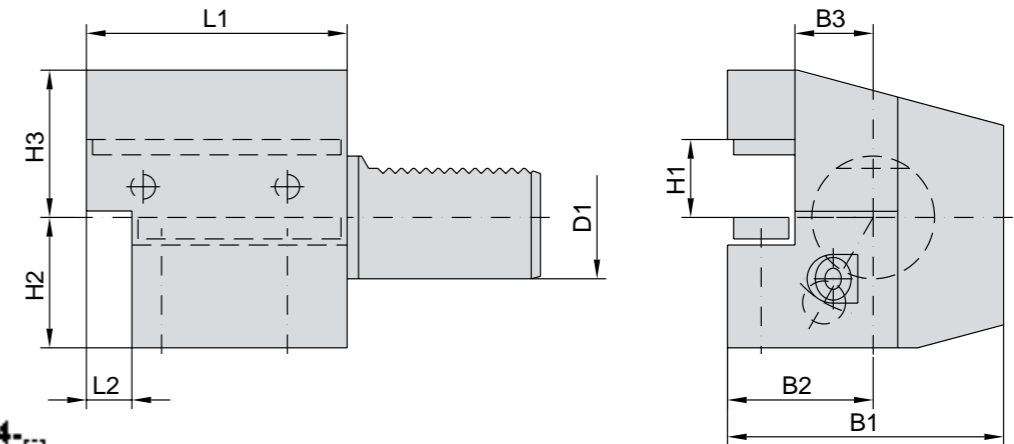
Axial Square Toolholder right hand inverted, Form C3



48-C3-...

Item No.	D1	H1	B1	B2	B3	H2	H3	..1	..2
48-C3-16x12	16	12	43	24	13	20	22	44	5
48-C3-20x16	20	16x12	65	40	26	25	30	50	-
48-C3-25x16	25	16x12	58	33	19	25	30	55	7
48-C3-30x20	30	20x16	76	41	23	28	38	70	10
48-C3-40x25	40	25x20	90	47.5	25.5	32.5	48	85	12.5
48-C3-50x32	50	32x25	105	55	30.5	38	50	100	16
48-C3-60x32	60	32x25	125	62.5	33	42.5	62.5	125	16

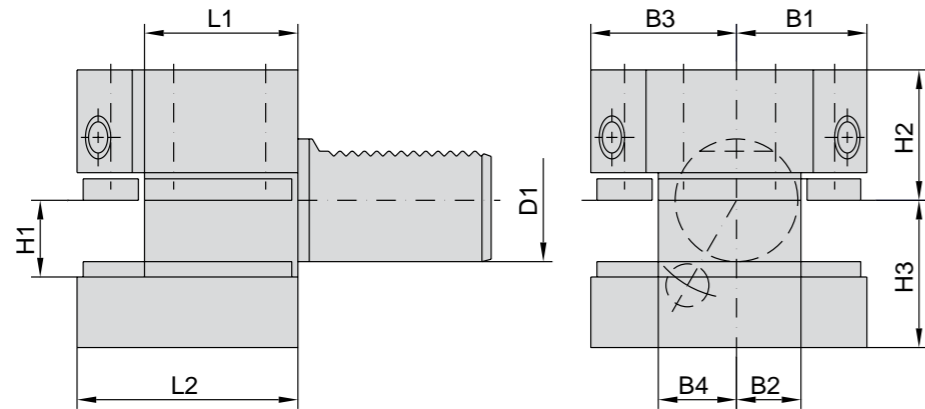
Axial Square Toolholder left hand inverted, Form C4



48-C4-...

Item No.	D1	H1	B1	B2	B3	H2	H3	..1	..2
48-C4-16x12	16	12	43	24	13	20	22	44	5
48-C4-20x16	20	16x12	65	40	26	25	30	50	-
48-C4-25x16	25	16x12	58	33	19	25	30	55	7
48-C4-30x20	30	20x16	76	41	23	28	38	70	10
48-C4-40x25	40	25x20	90	47.5	25.5	32.5	48	85	12.5
48-C4-50x32	50	32x25	105	55	30.5	38	50	100	16
48-C4-60x32	60	32x25	125	62.5	33	42.5	62.5	125	16

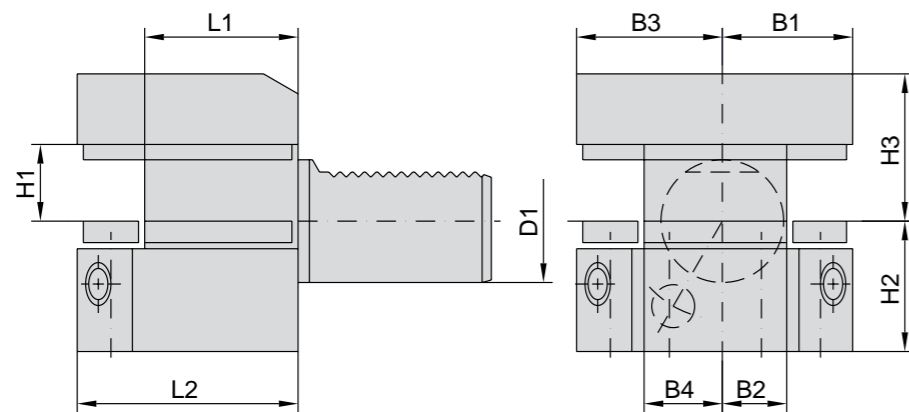
Universal Square Toolholder, Form D1



48-D1-...

Item No.	D1	H1	B1	B2	B3	B4	H2	H3	L1	L2
48-D1-25x16	25	16x12	33	19	33	19	25	30	34	48
48-D1-30x20	30	20x16	35	17	41	23	28	38	42	60
48-D1-40x25	40	25x20	42.5	21	47.5	25.5	32.5	48	50	72
48-D1-50x32	50	32x25	50	26	55	31.5	35	50	60	85
48-D1-60x32	60	32x25	57.5	23	57.5	33	42.5	62.5	65	110

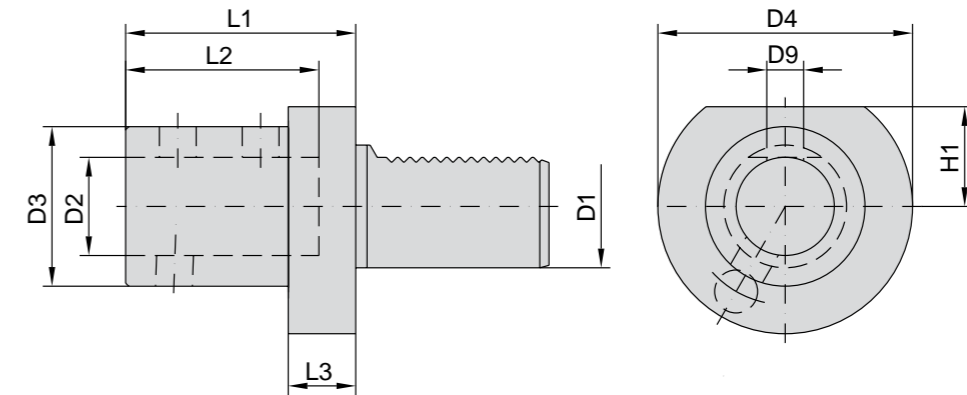
Universal Square Toolholder, inverted, Form D2



48-D2-...

Item No.	D1	H1	B1	B2	B3	B4	H2	H3	L1	L2
48-D2-25x16	25	16x12	33	19	33	19	25	30	34	48
48-D2-30x20	30	20x16	35	17	41	23	35	38	42	60
48-D2-40x25	40	25x20	42.5	21	47.5	25.5	42.5	48	50	72
48-D2-50x32	50	32x25	50	26	55	31.5	50	60	60	85
48-D2-60x32	60	32x25	57.5	23	57.5	33	62.5	62.5	65	110

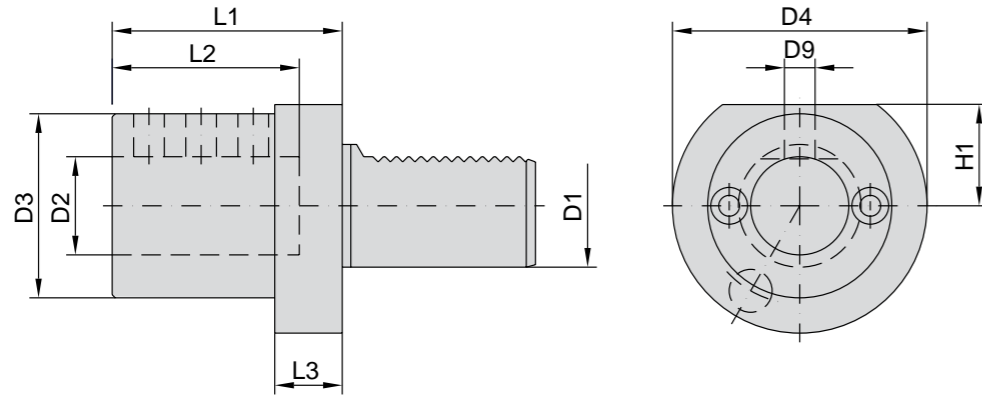
Holder for Indexable Insert Drills, internal coolant supply, Form E1



48-E1-...

Item No.	D1	D2	D3	D4	H1	L1	L2	L3	L3a
48-E1-20x16	20	16	35	50	-	67	54	18	M10x11
48-E1-20x20	20	20	40	50	-	67	54	18	M10x11
48-E1-20x25	20	25	45	50	-	71	59	18	M12x12
48-E1-25x16	25	16	35	50	25	67	54	18	M10x11
48-E1-25x20	25	20	40	50	25	67	54	18	M10x11
48-E1-25x25	25	25	45	50	25	71	59	18	M12x12
48-E1-25x32	25	32	52	59	25	75	63	18	M12x12
48-E1-30x16	30	16	35	68	28	67	54	22	M10x11
48-E1-30x20	30	20	40	68	28	67	54	22	M10x11
48-E1-30x25	30	25	45	68	28	71	59	22	M12x12
48-E1-30x32	30	32	52	68	28	75	63	22	M12x12
48-E1-40x16	40	16	35	83	32.5	67	54	22	M10x11
48-E1-40x20	40	20	40	83	32.5	67	54	22	M10x11
48-E1-40x25	40	25	45	83	32.5	75	59	22	M12x12
48-E1-40x32	40	32	52	83	32.5	75	63	22	M12x12
48-E1-40x40	40	40	65	83	32.5	90	73	22	M16x13
48-E1-50x16	50	16	35	90	35	60	54	30	M10x11
48-E1-50x20	50	20	40	98	35	60	54	30	M10x11
48-E1-50x25	50	25	45	98	35	60	59	30	M12x12
48-E1-50x32	50	32	52	98	35	60	63	30	M12x12
48-E1-50x40	50	40	65	98	35	90	73	30	M16x13
48-E1-50x50	50	50	75	98	35	100	83	30	M16x13
48-E1-60x16	60	16	35	123	42.5	60	54	30	M10x11
48-E1-60x20	60	20	40	123	42.5	60	54	30	M10x11
48-E1-60x25	60	25	45	123	42.5	60	59	30	M12x12
48-E1-60x32	60	32	52	123	42.5	60	63	30	M12x12
48-E1-60x40	60	40	65	123	42.5	90	73	30	M16x13
48-E1-60x50	60	50	75	123	42.5	100	83	30	M16x13

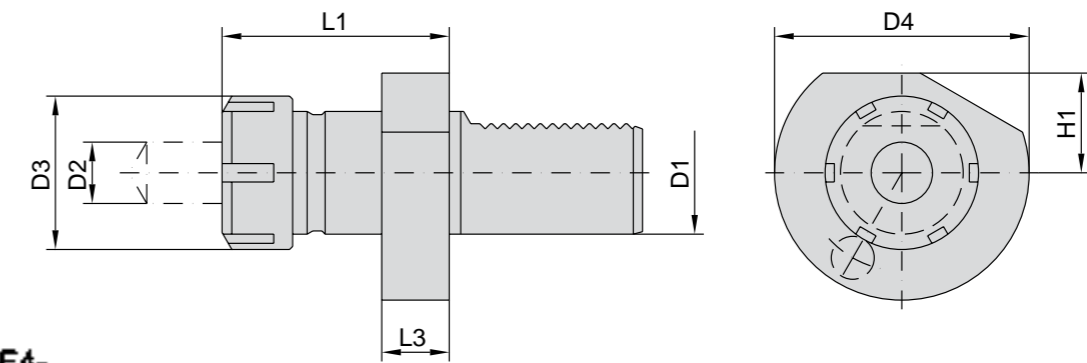
Boring Bar Holder, internal and external coolant supply, Form E2



48-E2-...

Item No	D1	D2	D3	D4	H1	L1	L2	L3	D9
48-E2-15x5	15	6	32	40	18	44	34	11	M8x16
48-E2-16x8	16	8	32	40	19	44	34	13	M8x12
48-E2-16x10	16	10	32	40	18	41	34	13	M8x12
48-E2-16x12	16	12	40	40	18	44	34	13	M8x12
48-E2-16x16	16	16	40	40	19	44	34	13	M8x12
48-E2-20x8	20	8	40	50	23	50	42	18	M8x16
48-E2-20x10	20	10	40	50	23	50	42	18	M8x16
48-E2-20x12	20	12	40	50	23	50	42	18	M8x16
48-E2-20x16	20	16	40	50	23	50	42	18	M8x12
48-E2-20x20	20	20	49	50	23	50	42	18	M8x12
48-E2-20x25	20	21	49	50	23	60	52	18	M8x10
48-E2-25x8	25	8	40	53	25	50	41	18	M8x25
48-E2-25x10	25	10	40	53	25	50	41	18	M8x25
48-E2-25x12	25	12	40	53	25	50	41	18	M8x16
48-E2-25x16	25	16	40	53	25	50	41	18	M8x16
48-E2-25x20	25	20	58	58	25	50	41	18	M8x16
48-E2-25x25	25	25	58	58	25	60	51	18	M8x16
48-E2-30x8	30	8	55	63	28	60	43	22	M8x25
48-E2-30x10	30	10	55	63	28	60	43	22	M8x25
48-E2-30x12	30	12	55	63	28	60	43	22	M8x20
48-E2-30x16	30	16	55	63	28	60	43	22	M8x20
48-E2-30x20	30	20	55	63	28	60	43	22	M8x20
48-E2-30x25	30	25	55	63	28	60	43	22	M8x16
48-E2-30x30	30	30	57	63	28	75	61	22	M8x16
48-E2-30x32	30	32	57	63	28	75	61	22	M8x16
48-E2-40x8	40	8	55	63	32.5	75	43	22	M8x25
48-E2-40x10	40	10	55	63	32.5	75	43	22	M8x25
48-E2-40x12	40	12	55	63	32.5	75	43	22	M8x25
48-E2-40x16	40	16	55	63	32.5	75	43	22	M10x25
48-E2-40x20	40	20	55	63	32.5	75	43	22	M10x20
48-E2-40x25	40	25	55	63	32.5	75	43	22	M10x20
48-E2-40x30	40	30	62	63	32.5	75	43	22	M10x20
48-E2-40x32	40	32	62	63	32.5	75	43	22	M10x20
48-E2-40x40	40	40	62	63	32.5	90	76	22	M10x15
48-E2-50x12	50	12	58	68	35	90	71	30	M8x30
48-E2-50x16	50	16	58	68	35	90	71	30	M10x30
48-E2-50x20	50	20	58	68	35	90	71	30	M12x25
48-E2-50x25	50	25	58	68	35	90	71	30	M12x25
48-E2-50x30	50	30	58	68	35	90	71	30	M12x20
48-E2-50x32	50	32	58	68	35	90	71	30	M12x20
48-E2-50x40	50	40	58	68	35	90	71	30	M12x15
48-E2-50x50	50	50	58	68	35	100	81	30	M12x12
48-E2-60x16	50	16	58	73	42.5	90	76	30	M10x30
48-E2-60x20	60	20	58	73	42.5	90	76	30	M12x25
48-E2-60x25	60	25	58	73	42.5	90	76	30	M12x25
48-E2-60x32	60	32	58	73	42.5	90	76	30	M12x20
48-E2-60x40	60	40	58	73	42.5	90	76	30	M12x20
48-E2-60x50	60	50	58	73	42.5	100	86	30	M12x15

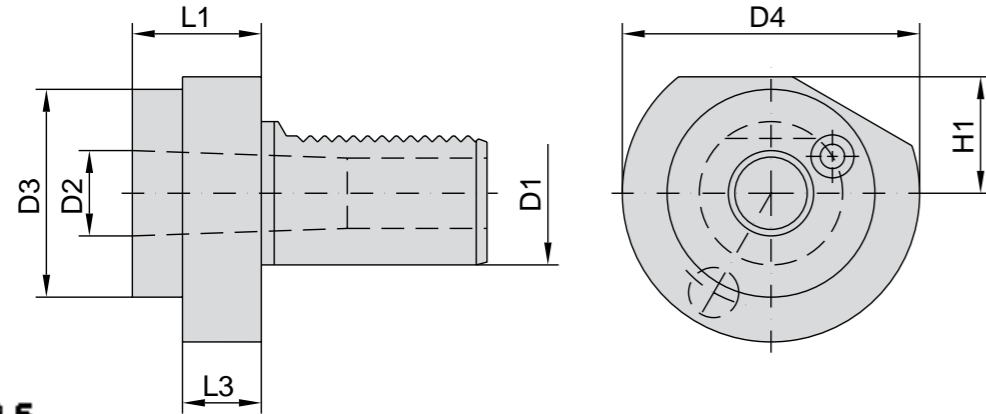
ER Collet Chuck Holder, Form E4



48-E4-...

Item No.	D1	Collet Size	D2 (clamping range)	D3	D4	H1	L1	L3
48-E4-15x16	15	ER-16	0.5-10	32	40	18	44	13
48-E4-16x20	16	ER-20	1-10	35	40	18	44	13
48-E4-20x25	20	ER-25	1-18	42	50	25	65	18
48-E4-20x32	20	ER-32	2-20	50	50	25	67	18
48-E4-25x25	25	ER-25	1-16	42	58	25	78	18
48-E4-25x32	25	ER-32	2-20	50	58	25	83	18
48-E4-30x25	30	ER-25	1-18	42	58	28	57	22
48-E4-30x32	30	ER-32	2-20	50	58	28	70	22
48-E4-30x40	30	ER-40	2-28	63	68	28	80	22
48-E4-40x25	40	ER-25	1-16	42	63	32.5	57	22
48-E4-40x32	40	ER-32	2-20	50	63	32.5	78	22
48-E4-40x40	40	ER-40	2-28	63	63	32.5	80	22
48-E4-50x32	50	ER-32	2-20	50	68	35	93	30
48-E4-50x40	50	ER-40	2-28	63	68	35	80	30
48-E4-60x32	60	ER-32	2-20	50	123	42.5	70	30
48-E4-60x40	60	ER-40	2-28	63	123	42.5	80	30

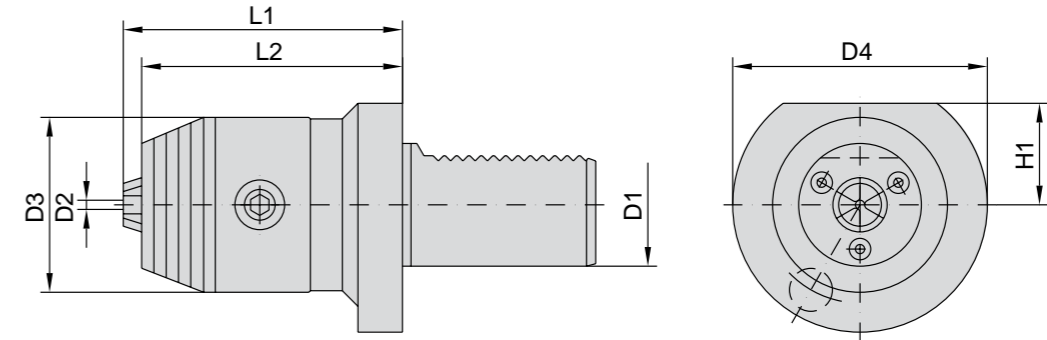
Morse Taper Holder. Form F



48-F...

Item No.	D1	D2 (mm)	D3	D4	H1	L1	L3
48-F-16xMK1	16	1	-	40	-	61	-
48-F-16xMK2	16	2	-	42	-	72	-
48-F-20xMK1	20	1	-	50	-	23	-
48-F-20xMK2	20	2	45	50	-	41	22
48-F-25xMK1	25	1	45	58	25	23	16
48-F-25xMK2	25	2	45	58	25	34	18
48-F-25xMK3	25	3	45	50	25	91	18
48-F-30xMK1	30	1	-	68	28	27	-
48-F-30xMK2	30	2	55	68	28	36	27
48-F-30xMK3	30	3	55	68	28	66	41
48-F-40xMK2	40	2	55	83	32.5	56	27
48-F-40xMK3	40	3	58	83	32.5	76	27
48-F-40xMK4	40	4	58	83	32.5	80	22
48-F-50xMK2	50	2	55	98	35	38	30
48-F-50xMK3	50	3	58	98	35	45	30
48-F-50xMK4	50	4	58	98	35	55	30
48-F-50xMK5	50	5	75	98	35	72	30
48-F-60xMK2	60	2	55	123	42.5	33	30
48-F-60xMK3	60	3	58	123	42.5	45	30
48-F-60xMK4	60	4	68	123	42.5	55	30
48-F-60xMK5	60	5	90	123	42.5	63	30

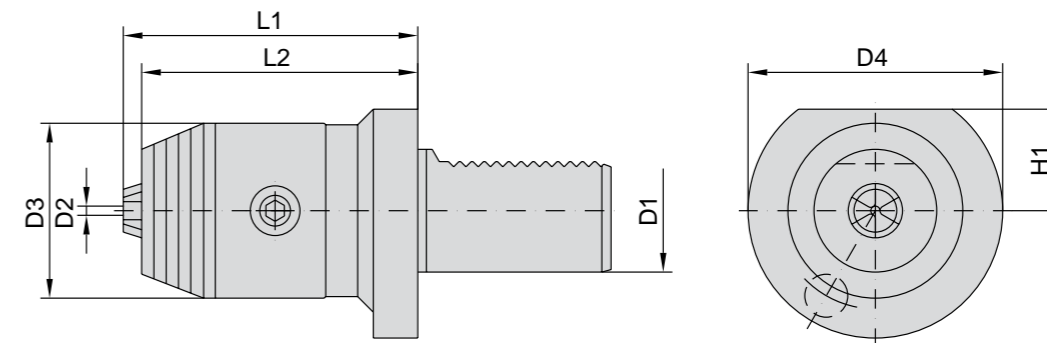
Precision Drill Chuck, external coolant supply



48-BE...

Item No.	D1	D2 (clamping range)	D3	D4	H1	L1	L2
48-BE-16x8	16	0.5-8	41	40	18	53	51
48-BE-20x8	20	0.5-8	49	50	23	63	60
48-BE-20x13	20	1-13	57	57	-	86	92
48-BE-25x8	25	0.5-8	49	58	25	63	60
48-BE-30x8	30	0.5-8	49	68	28	63	60
48-BE-30x13	30	1-13	57	68	-	88	92
48-BE-30x16	30	3-16	57	68	-	93	92
48-BE-40x8	40	0.5-8	49	83	32.5	66	66
48-BE-40x13	40	1-13	57	83	32.5	91	95
48-BE-40x16	40	3-16	57	83	32.5	96	95
48-BE-50x13	50	1-13	57	98	35	91	96
48-BE-50x16	50	3-16	57	98	35	96	96
48-BE-60x16	60	3-16	57	123	42.5	103	92.5

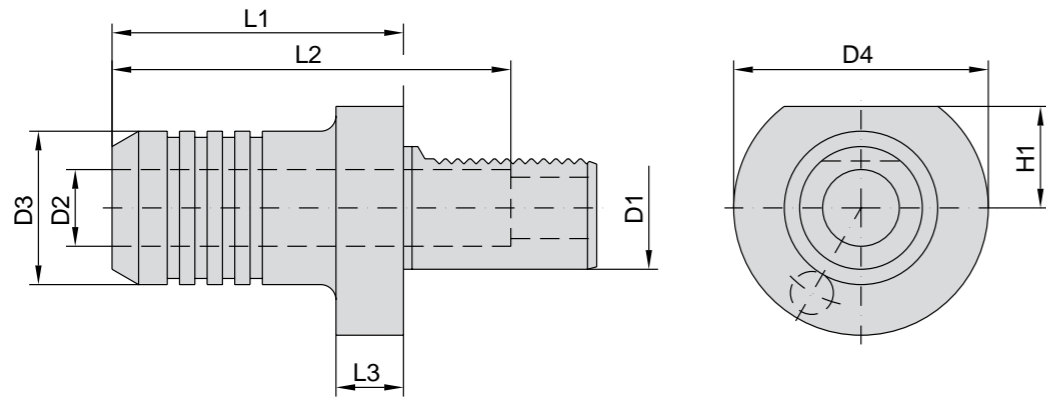
Precision Drill Chuck, internal coolant supply



48-BI...

Item No.	D1	D2 (clamping range)	D3	D4	H1	L1	L2
48-BI-16x8	16	0.5-8	38	40	18	71	68
48-BI-20x8	20	0.5-8	36	50	23	71	68
48-BI-20x13	20	1-13	50	57	-	96	90
48-BI-25x8	25	0.5-8	36	58	25	71	68
48-BI-30x8	30	0.5-8	36	68	28	71	68
48-BI-30x13	30	1-13	50	68	28	96	90
48-BI-30x16	30	3-16	57	68	-	101	90
48-BI-40x8	40	0.5-8	38	83	32.5	71	68
48-BI-40x13	40	1-13	50	83	32.5	96	90
48-BI-40x16	40	3-16	57	83	32.5	101	90
48-BI-50x13	50	1-13	50	98	35	96	90
48-BI-50x16	50	3-16	57	98	35	101	90
48-BI-60x16	60	3-16	57	123	42.5	101	90

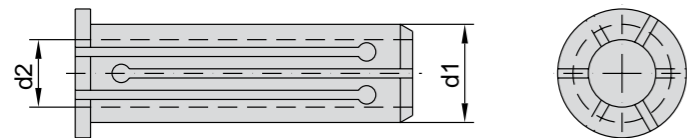
Hydraulic Chuck



48-HS-...

Item No.	D1	D2	D3	D4	H1	L1	L2	L3
48-HS-30x20	30	25	42	58	28	60	130	15
48-HS-30x25	30	25	53	60	28	64	95	15
48-HS-30x32	30	32	60	68	28	64	95	18
48-HS-40x20	40	25	42	63	32.5	66	130	22
48-HS-40x25	40	25	53	63	32.5	66	130	22
48-HS-40x32	40	32	60	63	32.5	66	95	17

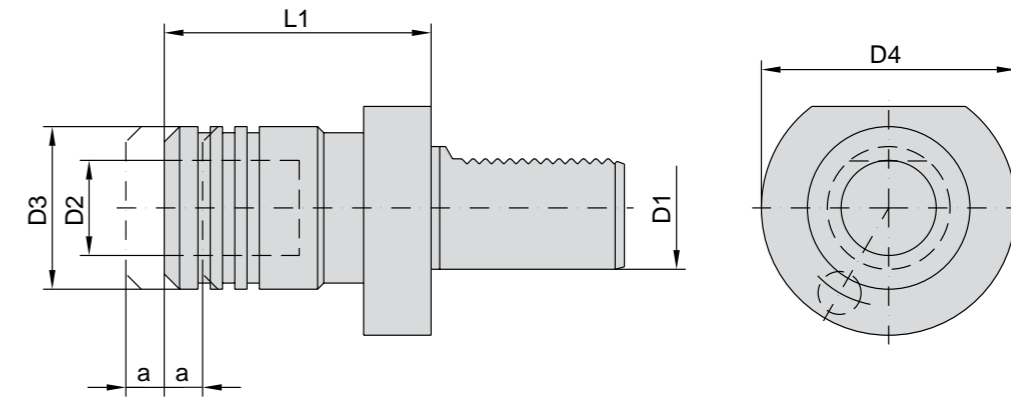
Reducing Sleeve for Hydraulic Chuck



2440...

Item No.	d1	d2
244020003	20	3
244020004	20	4
244020005	20	5
244020006	20	6
244020008	20	8
244020010	20	10
244020012	20	12
244020014	20	14
244020016	20	16
244032006	32	6
244032008	32	8
244032010	32	10
244032012	32	12
244032014	32	14
244032016	32	16
244032020	32	20
244032025	32	25

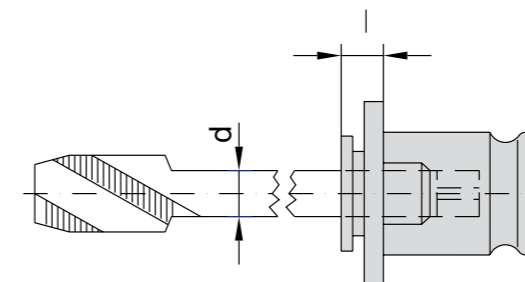
Quick Change Tapping Head



48-GS-... with tension and compression

Item No.	D1	D2 (tapping range)	D3	D4	L1	a	Corresponding Adaptor
48-GS-16x1	16	M3-M12	36	40	52	7.5	WE-1 (170012)
48-GS-20x1	20	M3-M12	36	50	58	7.5	WE-1 (170012)
48-GS-25x1	25	M3-M12	36	56	60	7.5	WE-1 (170012)
48-GS-30x1	30	M3-M12	36	68	62.5	7.5	WE-1 (170012)
48-GS-30x2	30	M3-M20	53	68	67	12.5	WE-2 (170020)
48-GS-40x1	40	M3-M12	36	83	82.5	7.5	WE-1 (170012)
48-GS-40x2	40	M3-M20	53	83	67	12.5	WE-2 (170020)
48-GS-40x3	40	M14-M33	79	83	122	20	WE-3 (170033)
48-GS-40x4	40	M3-M12	36	98	70.5	7.5	WE-1 (170012)
48-GS-40x2	50	M3-M20	53	98	104	12.5	WE-2 (170020)
48-GS-50x3	50	M14-M33	79	98	106	20	WE-3 (170033)
48-GS-60x4	50	M22-M48	96	98	122	22.5	WE-4 (170048)
48-GS-60x2	60	M3-M20	53	123	104	12.5	WE-2 (170020)
48-GS-60x3	60	M14-M33	79	123	106	20	WE-3 (170033)
48-GS-60x4	60	M22-M48	96	123	119	22.5	WE-4 (170048)

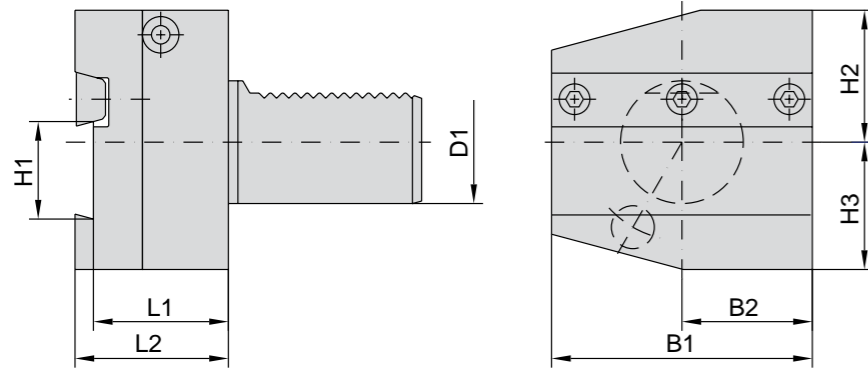
Adaptors for Quick Change Tapping Head



1700...

Item No.	Size	Range	Tap sizes dia. (mm)	l
170010 (d*10)	WE-0	M1-M10	2.5/2.8/3.5/4/4.5/5/5.5/6/7/8	7
170012... (d*10)	WE-1	M3-M12	2/3/4/4.5/5/5.5/6/8/10/12/11	7
170020... (d*10)	WE-2	M3-M20	7/8/9/10/11/12/14/15	11
170033 (d*10)	WE-3	M14-M33	11/12/14/16/18/20/22/25	14
170048 (d*10)	WE-4	M22-M48	18/20/22/25/26/32/36	42

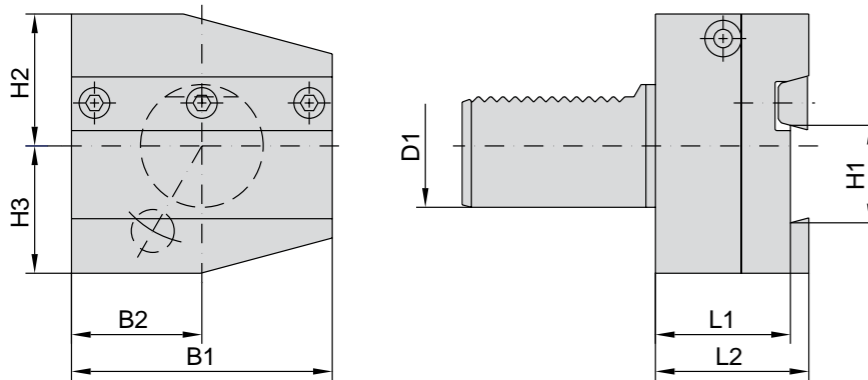
Cut-Off Holder, adjustable height, right hand



48-AR-...

Item No.	D1	H1	B1	B2	H2	H3	L1	L2
48-AR-25x26	25	26	60	33	28	30	44	50
48-AR-30x26	30	26	70	35	32	39	44	50
48-AR-40x26	40	26	95	42.5	43	41.5	44	50
48-AR-40x32	40	32	95	42.5	43	41.5	44	50
48-AR-50x26	50	26	100	50	43	45	44	50
48-AR-50x32	50	32	100	50	43	45	44	50
48-AR-60x32	60	32	125	62.5	43	55	44	50

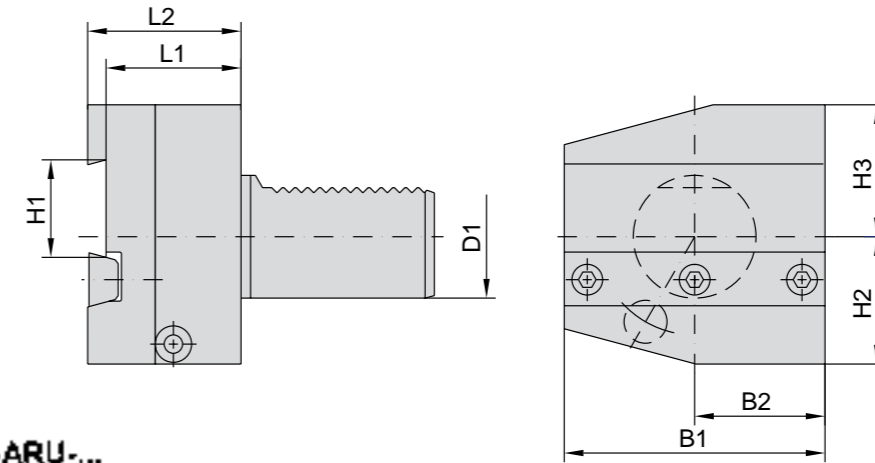
Cut-Off Holder, adjustable height, left hand



48-AL-...

Item No.	D1	H1	B1	B2	H2	H3	L1	L2
48-AL-25x26	25	26	60	33	28	30	44	50
48-AL-30x26	30	26	70	35	32	39	44	50
48-AL-40x26	40	26	95	42.5	43	41.5	44	50
48-AL-40x32	40	32	95	42.5	43	41.5	44	50
48-AL-50x26	50	26	100	50	43	45	44	50
48-AL-50x32	50	32	100	50	43	45	44	50
48-AL-60x32	60	32	125	62.5	43	55	44	50

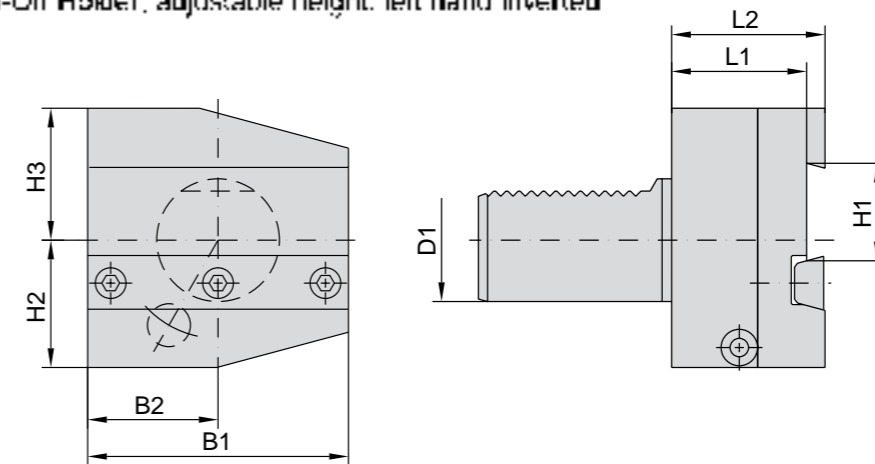
Cut-Off Holder, adjustable height, right hand inverted



48-ARU-...

Item No.	D1	H1	B1	B2	H2	H3	L1	L2
48-ARU-25x26	25	26	60	33	28	30	44	50
48-ARU-30x26	30	26	70	35	32	39	44	50
48-ARU-40x26	40	26	95	42.5	43	41.5	44	50
48-ARU-40x32	40	32	95	42.5	43	41.5	44	50
48-ARU-50x26	50	26	100	50	43	45	44	50
48-ARU-50x32	50	32	100	50	43	45	44	50
48-ARU-60x32	60	32	125	62.5	43	55	44	50

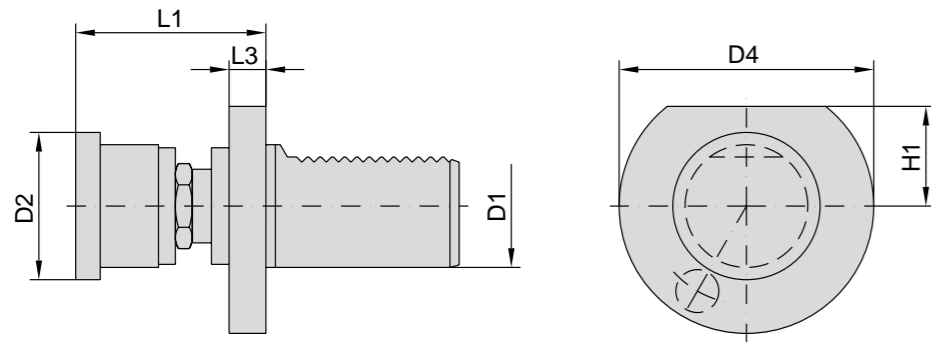
Cut-Off Holder, adjustable height, left hand inverted



48-ALU-...

Item No.	D1	H1	B1	B2	H2	H3	L1	L2
48-ALU-25x26	25	26	60	33	28	30	44	50
48-ALU-30x26	30	26	70	35	32	39	44	50
48-ALU-40x26	40	26	95	42.5	43	41.5	44	50
48-ALU-40x32	40	32	95	42.5	43	41.5	44	50
48-ALU-50x26	50	26	100	50	43	45	44	50
48-ALU-50x32	50	32	100	50	43	45	44	50
48-ALU-60x32	60	32	125	62.5	43	55	44	50

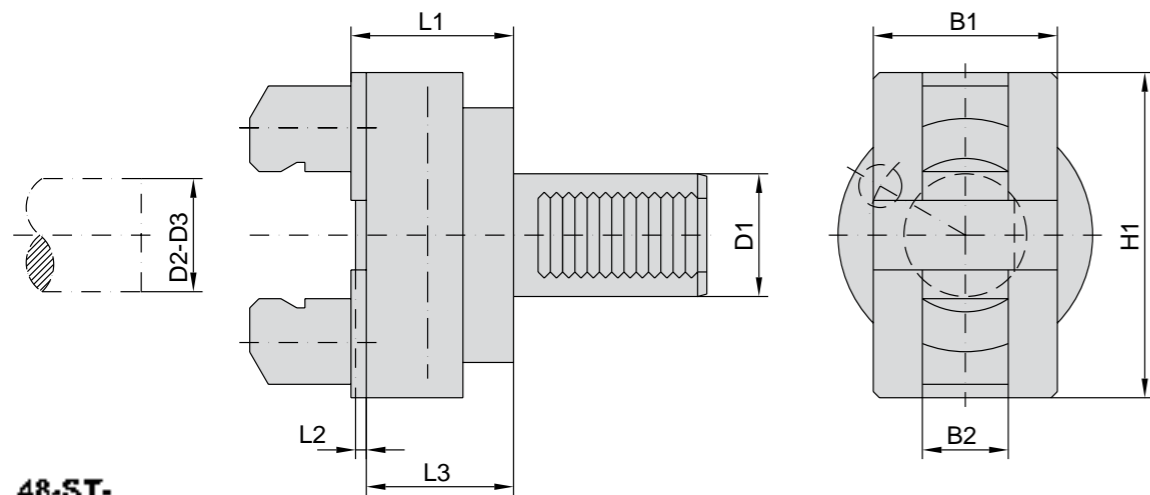
Rotating Bar Stop



48-WA-...

Item No	D1	D2	D4	H1	L1	L3
48-WA-20x26	20	26	50	23	60-85	18
48-WA-20x32	20	32	50	23	60-85	18
48-WA-20x42	20	42	50	23	60-85	18
48-WA-30x32	30	32	58	28	84-132	22
48-WA-30x42	30	42	58	28	84-132	22
48-WA-30x58	30	58	58	28	84-132	22
48-WA-40x32	40	32	63	32.5	84-132	22
48-WA-40x42	40	42	63	32.5	84-132	22
48-WA-40x58	40	58	63	32.5	84-132	22

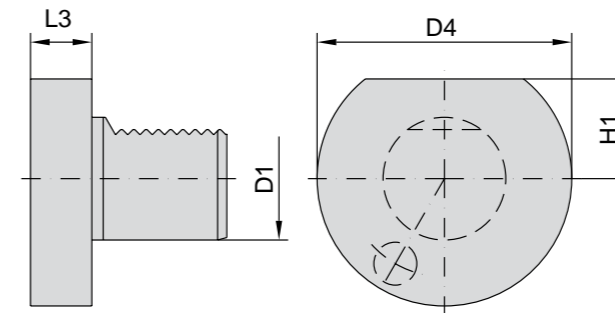
Bar Puller



48-ST-...

Item No	D1	D2	D3	B1	B2	H1	L1	L2	L3
48-ST-20x56	20	6-56	54-110	50	28	72	7	4	46
48-ST-25x66	25	6-56	54-110	50	28	72	5	4	48
48-ST-30x66	30	6-56	54-110	50	28	72	5	4	46
48-ST-40x60	40	10-75	62-125	65	28	73	5	4	46
48-ST-40x76	50	10-75	62-125	65	28	73	5	4	67
48-ST-40x76	60	10-75	62-125	65	28	73	5	4	67

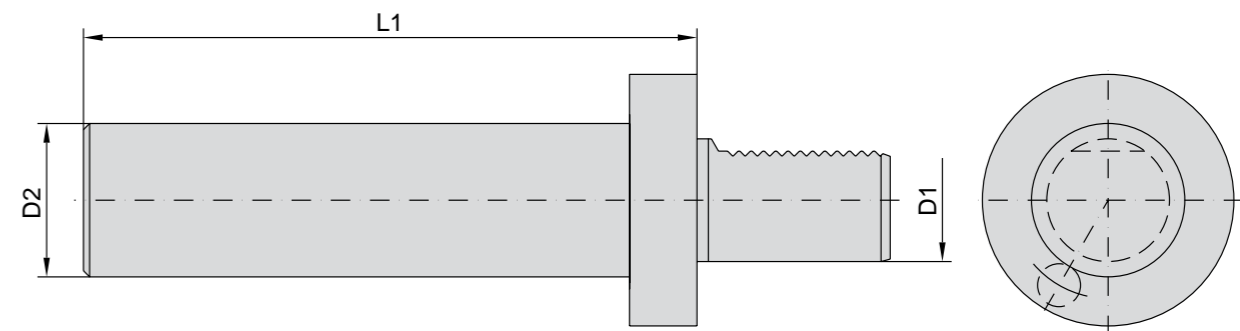
Plug Form Z2



48-Z2-...

Item No	D1	D4	H1	L3	Material
48-Z2-16-S/P	16	40	18	18	S=Steel; P=Plastic
48-Z2-20-S/P	20	50	23	15	S=Steel; P=Plastic
48-Z2-26-S	25	50	25	16	S=Steel
48-Z2-30-S/P	30	60	29	16	S=Steel; P=Plastic
48-Z2-40-S/P	40	80	32.5	20	S=Steel; P=Plastic
48-Z2-60-S/P	50	90	35	20	S=Steel; P=Plastic
48-Z2-60-S/P	60	120	42.5	20	S=Steel; P=Plastic

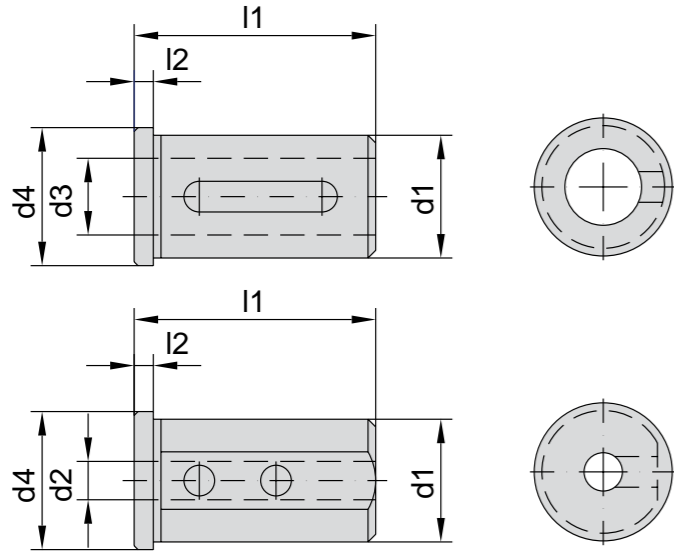
Test Bar



48-PD-...

Item No.	D1	D2	L1
48-PD-18x25	18	25	230
48-PD-20x30	20	30	220
48-PD-25x30	25	30	220
48-PD-30x40	30	40	230
48-PD-40x50	40	50	230
48-PD-50x50	50	50	230
48-PD-60x60	60	60	300

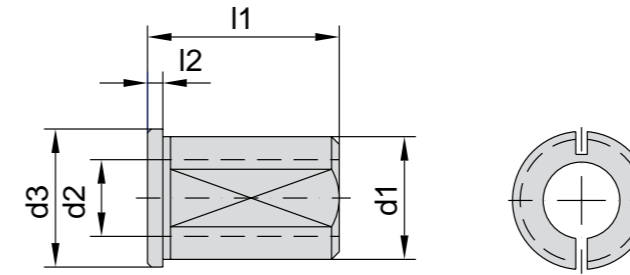
Bushings for Boring Bar Holders, internal and external coolant



2400...

Item No.	d1	d2	d3	d4	l1	l2
240026006	25	8	-	29	50	4
240026008	25	8	-	29	50	4
240026010	25	12	-	29	50	4
240026012	25	12	-	29	50	4
240026014	25	-	15	29	50	4
240026020	25	-	20	29	50	4
240032006	32	8	-	36	63	5
240032008	32	8	-	36	63	5
240032010	32	12	-	36	63	5
240032012	32	12	-	36	63	5
240032014	32	-	15	36	63	5
240032020	32	-	20	36	63	5
240032025	32	-	25	36	63	5
240040008	40	8	-	44	58	5
240040010	40	12	-	44	58	5
240040012	40	12	-	44	58	5
240040014	40	-	15	44	58	5
240040020	40	-	20	44	58	5
240040025	40	-	25	44	58	5
240040032	40	-	32	44	58	5
240050012	50	12	-	54	75	5
240050014	50	-	15	54	75	5
240050020	50	-	20	54	75	5
240050025	50	-	25	54	75	5
240050032	50	-	32	54	75	5
240050040	50	-	40	54	75	5

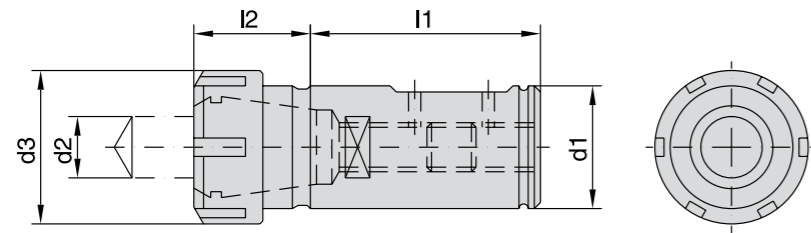
Bushings with slot for Boring Bar Holders



2401...

Item No.	d1	d2	d3	l1	l2
240120006	25	8	24	30	4
240120008	25	8	24	30	4
240120010	25	12	24	30	4
240120012	25	12	24	30	4
240120014	25	15	24	30	4
240120016	25	15	24	30	4
240125006	25	8	29	40	4
240125008	25	8	29	40	4
240125010	25	12	29	40	4
240125012	25	12	29	40	4
240125014	25	15	29	40	4
240125016	25	15	29	40	4
240125020	25	20	29	40	4
240130008	30	8	34	50	4
240130010	30	12	34	50	4
240130012	30	12	34	50	4
240130014	30	15	34	50	4
240130016	30	15	34	50	4
240130020	30	20	34	50	4
240130025	30	25	34	50	4
240132006	32	8	35	50	4
240132010	32	12	35	50	4
240132012	32	12	35	50	4
240132014	32	15	35	50	4
240132016	32	15	35	50	4
240132018	32	16	35	50	4
240132020	32	20	35	50	4
240132025	32	25	35	50	4
240140010	40	12	44	75	4
240140012	40	12	44	75	4
240140014	40	15	44	75	4
240140016	40	15	44	75	4
240140020	40	20	44	75	4
240140025	40	25	44	75	4
240140032	40	32	44	75	4
240150020	50	20	54	75	4
240150025	50	25	54	75	4
240150032	50	32	54	75	4
240150040	50	40	54	75	4

ER Collet Chuck with cylindrical shank



2410...

Item No.	d1	d2 (clamping range)	d3	l1	l2	Corresponding collet
241026018	25	1-16	42	40	31	ER-25 (130C25)
241032016	32	1-16	42	50	32	ER-25 (130C25)
241032020	32	2-20	50	50	38	ER-32 (130C32)
241040020	40	2-20	50	75	38	ER-32 (130C32)
241040024	40	3-26	63	75	55	ER-40 (130C40)

Wrenches for ER Collet Chuck

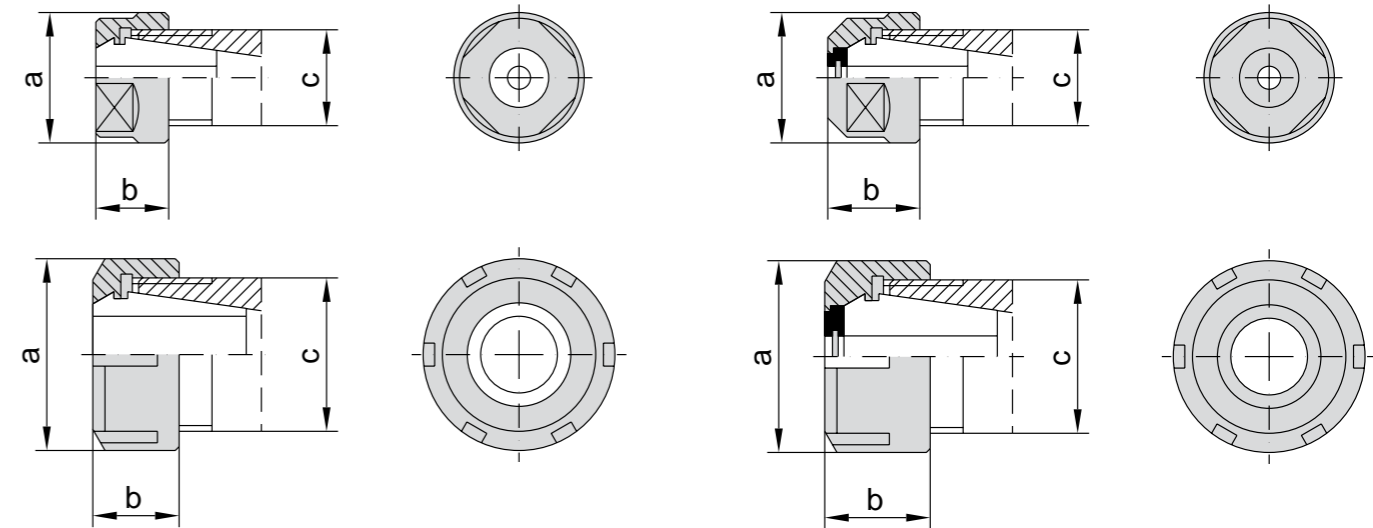


1076...

Item No.	Size	a	b
107611000	ER-11	17	95
107618000	ER-16	25	124
107620000	ER-20	30	172

Item No.	Size	a	b
107626400	ER-25	35	210
107632600	ER-32	75	250
107640000	ER-40	90	290
107660000	ER-50	110	350

Clamping Nuts for ER Collet Chuck



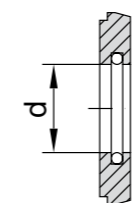
2000... for external coolant supply

Item No.	Size	a	b	c
200011000	ER-11	19	17.5	M14x1.5
200018000	ER-16	28	17.5	M22x1.5
200020000	ER-20	34	19	M25x1.5
200025000	ER-25	42	20	M32x1.5
200032000	ER-32	50	22.5	M40x1.5
200040000	ER-40	63	25.5	M50x1.5
200050000	ER-50	79	35.5	M64x2.0

2050... for internal coolant supply

Item No.	Size	a	b	c
205016000	ER-16	28	22.5	M22x1.5
205020000	ER-20	34	24	M25x1.5
205025000	ER-25	42	25	M32x1.5
205032000	ER-32	50	27.5	M40x1.5
205040000	ER-40	63	30.5	M50x1.5

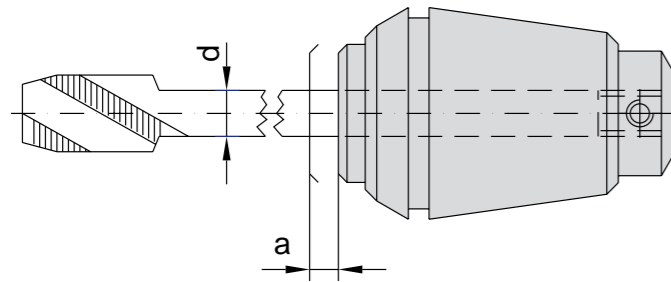
Sealing Washers for Clamping Nuts with internal coolant supply



2101...

Item No. unit	Item No. complete set	Size	d	Range per washer	Order Example
210116...[d*10]	210116000	ER-16	3.5-10	0.5	210116040 is suitable for shank dia = d-3.5
210120...[d*10]	210120000	ER-20	3.5-13	0.5	210120120 is suitable for shank dia = d-1.5
210125...[d*10]	210125000	ER-25	3.5-18	0.5	
210132...[d*10]	210132000	ER-32	3.5-20	0.5	
210140...[d*10]	210140000	ER-40	3.5-26	0.5	

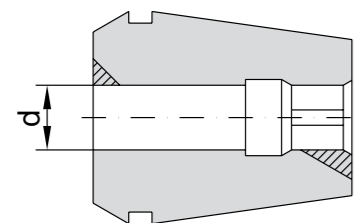
Tapping Collets, type ET-1, with tension



1800...

Item No.	Type	Size	Range	d Shank	a
180012... [d*10]	ET-1-12	ER-11	M1-M6	1.4 1.6 1.8 2.0 2.2 2.4 2.5 2.8 3.1 3.5 3.66	5.5
180016... [d*10]	ET-1-16	ER-16	M1-M6	1.4 1.6 1.8 2.0 2.2 2.4 2.5 2.8 3.1 3.5 3.66 4.0 5.5 5.6 6.2	7
180020... [d*10]	ET-1-20	ER-20	M1-M10	2.2 2.4 2.5 2.8 3.1 3.5 3.66 4.0 5.5 5.6 6.2 6.3 7	7
180025... [d*10]	ET-1-25	ER-25	M1-M10	2.5 2.8 3.1 3.5 3.66 4.0 5.5 5.6 6.2 6.3 7 7.1 7.6 8 8.9 10	8
180032... [d*10]	ET-1-32	ER-32	M3.5-M16	4.3 5.0 5.6 6.2 6.3 7 7.1 7.6 8 8.9 10 10.5 11.1 12 12.1 12.5	10
180040... [d*10]	ET-1-40	ER-40	M4.5-M22	6.5 7.6 8 8.7 10 10.5 11.1 12 12.1 12.5 14 15 16	13

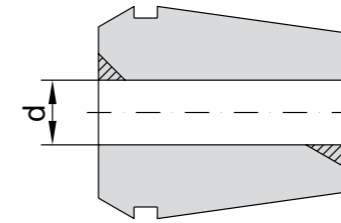
ER Tapping Collets, type ER-GB, for rigid tapping



1810...

Item No.	Type	Size	Range	d Shank
181018... [d*10]	ER-18-GB	ER-18	M2.5-M6	4.4 5.5 5.6 6.2 6.3 7 7.1 7.6 8 8.9
181020... [d*10]	ER-20-GB	ER-20	M3.5-M14	4.4 5.5 5.6 6.2 6.3 7 7.1 7.6 8 8.9 10 10.5 11.1 12
181025... [d*10]	ER-25-GB	ER-25	M3.5-M22	4.4 5.5 5.6 6.2 6.3 7 7.1 7.6 8 8.9 10 10.5 11.1 12 12.5 14 15 16
181032... [d*10]	ER-32-GB	ER-32	M3.5-M27	4.4 5.5 5.6 6.2 6.3 7 7.1 7.6 8 8.9 10 10.5 11.1 12 12.5 14 15 16 17 18 20
181040... [d*10]	ER-40-GB	ER-40	M4.5-M30	6.5 7.6 8 8.7 10 10.5 11.1 12 12.1 12.5 14 15 16 17 18 20 22

ER Collets (ER/ESX), High Precision

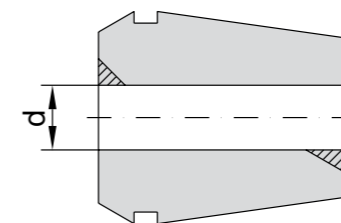


1900...

Item No. until	Item No. complete set	Size	d	Range per collet	Run-out tolerance*	Order example
190011... [d*10]	190011000	ER-11	7-0.5	1.5	0.01	190011010 for shank dia. = 1-1.5
190016... [d*10]	190016000	ER-16	10-0.5	1.5	0.01	190016020 for shank dia. = 2-1
190018... [d*10]	190018000	ER-18	10-1	1	0.01	190018020 for shank dia. = 2-1
190020... [d*10]	190020000	ER-20	13-1	1	0.01	190020020 for shank dia. = 2-1
190025... [d*10]	190025000	ER-25	16-1	1	0.01	190025020 for shank dia. = 2-1
190032... [d*10]	190032000	ER-32	20-2	1	0.01	190032030 for shank dia. = 3-2
190040... [d*10]	190040000	ER-40	26-3	1	0.01	190040040 for shank dia. = 4-3
190050... [d*10]	190050000	ER-50	34-10	2	0.05	190050020 for shank dia. = 12-10

*with test material according DIN 6491

ER Collets DIN 6499B (ER-UP), Ultra Precision

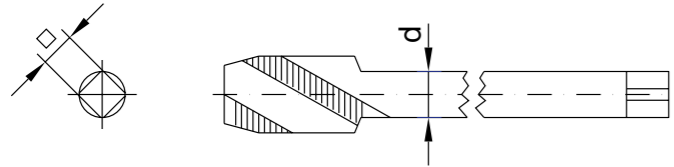


1901...

Item No. until	Item No. complete set	Size	d	Range per collet	Run-out tolerance*	Order example
190111... [d*10]	190111000	ER-11	7-0.5	1.5	0.005	190111010 for shank dia. = 1-1.5
190116... [d*10]	190116000	ER-16	10-0.5	1.5	0.005	190116020 for shank dia. = 2-1
190118... [d*10]	190118000	ER-18	10-1	1	0.005	190118020 for shank dia. = 2-1
190120... [d*10]	190120000	ER-20	13-1	1	0.005	190120020 for shank dia. = 2-1
190125... [d*10]	190125000	ER-25	16-1	1	0.005	190125020 for shank dia. = 2-1
190132... [d*10]	190132000	ER-32	20-2	1	0.005	190132030 for shank dia. = 3-2
190140... [d*10]	190140000	ER-40	26-3	1	0.005	190140040 for shank dia. = 4-3
190150... [d*10]	190150000	ER-50	34-10	2	0.01	190150020 for shank dia. = 12-10

*with test material according DIN 6499B

Tap Shank Diameters



Thread	ISO 529		ISO 2203		DIN 371		DIN 357 / 370		DIN 352		Japan JIS		US Standard		
	[mm]	[inch]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
M 1.0		2.50	2.10	-	-	2.50	2.10	-	-	2.50	2.10	3.00	2.50	-	-
M 1.1		2.50	2.10	-	-	2.50	2.10	-	-	2.50	2.10	3.00	2.50	-	-
M 1.2		2.50	2.10	-	-	2.50	2.10	-	-	2.50	2.10	3.00	2.50	-	-
M 1.4		2.50	2.10	-	-	2.50	2.10	-	-	2.50	2.10	3.00	2.50	-	-
M 1.6	1/16	2.50	2.10	-	-	2.50	2.10	-	-	2.50	2.10	3.00	2.50	0.141	0.110
M 1.7		2.50	2.10	-	-	2.50	2.10	-	-	2.50	2.10	3.00	2.50	-	-
M 1.8		2.50	2.10	-	-	2.50	2.10	-	-	2.50	2.10	3.00	2.50	0.141	0.110
M 2.0		2.80	2.10	2.50	2.00	2.50	2.10	-	-	2.80	2.10	3.00	2.50	0.141	0.110
M 2.2		2.80	2.10	2.80	2.20	2.50	2.10	-	-	2.80	2.10	3.00	2.50	0.141	0.110
M 2.3		2.80	2.10	2.90	2.20	2.50	2.10	-	-	2.80	2.10	3.00	2.50	-	-
M 2.5	3/32	2.80	2.10	2.80	2.20	2.50	2.10	-	-	2.80	2.10	3.00	2.50	0.141	0.110
M 2.6		2.80	2.10	2.80	2.20	2.50	2.10	-	-	2.80	2.10	3.00	2.50	-	-
M 3.0	1/8	3.15	2.50	3.15	2.50	3.50	2.70	3.00	-	3.50	2.70	4.00	3.00	0.141	0.110
M 3.5		3.55	2.80	3.55	2.80	4.00	3.00	3.50	2.70	4.00	3.00	4.00	3.00	0.141	0.110
M 4.0	5/32	4.00	3.15	-	-	4.50	3.40	2.80	2.70	4.50	3.40	5.00	4.00	0.188	0.131
M 4.5	3/16	4.50	3.55	-	-	5.00	4.30	3.50	2.70	5.00	4.30	5.00	4.00	0.194	0.152
M 5.0		5.00	4.00	-	-	5.00	4.30	3.50	2.70	5.00	4.30	5.50	4.50	0.194	0.152
M 6.0	1/4	6.30	5.00	-	-	6.00	4.30	4.50	3.40	6.00	4.90	6.00	4.50	0.255	0.191
M 7.0	5/16	7.10	5.60	-	-	7.00	5.50	5.50	4.30	6.00	4.90	6.20	5.00	0.318	0.238
M 8.0		8.00	6.30	-	-	8.00	6.20	6.30	4.90	6.00	4.90	6.20	5.00	0.318	0.238
M 9.0		9.00	7.10	-	-	9.00	7.00	7.00	5.50	7.00	5.50	7.00	5.50	0.381	0.286
M 10.0	3/8	10.00	8.00	-	-	10.00	8.00	7.00	5.50	7.00	5.50	7.00	5.50	0.381	0.286
M 11.0		10.00	8.00	-	-	-	-	8.00	6.20	6.00	5.00	6.20	5.00	0.381	0.286
M 12.0	1/2	12.00	9.00	9.00	-	-	-	9.00	7.00	9.00	7.00	8.50	6.50	0.381	0.275
M 14.0	3/16	14.00	11.00	11.00	-	-	-	11.00	9.00	11.00	9.00	10.50	8.00	0.429	0.322
M 16.0	5/8	16.00	12.50	12.50	-	-	-	12.50	10.00	12.00	10.00	12.50	10.00	0.480	0.360
M 18.0	1 1/16	18.00	14.00	14.00	-	-	-	14.00	11.00	14.00	11.00	14.00	11.00	0.542	0.406
M 20.0	13/16	20.00	14.00	14.00	-	-	-	16.00	12.00	16.00	12.00	15.00	12.00	0.652	0.489
M 22.0	7/8	22.00	16.00	16.00	-	-	-	18.00	14.50	18.00	14.50	17.00	13.00	0.697	0.525
M 24.0	15/16	24.00	18.00	18.00	-	-	-	18.00	14.50	18.00	14.50	19.00	15.00	0.760	0.570
M 27.0	1 1/8	27.00	20.00	20.00	-	-	-	20.00	16.00	20.00	16.00	20.00	15.00	0.886	0.672
M 30.0	1 1/4	30.00	22.00	22.00	-	-	-	22.00	18.00	22.00	18.00	23.00	17.00	1.021	0.776

All sizes in mm (except US Standard in inch)

Higher Productivity



WTO's strategy is to constantly build on excellence in technology and quality to serve our customers.

As recognized pioneer and leader in its industry, WTO has always set the benchmarks for driven tool technology with inventions and new developments.

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