

Complete Machining Solutions

NON-ROTATING TOOL HOLDERS



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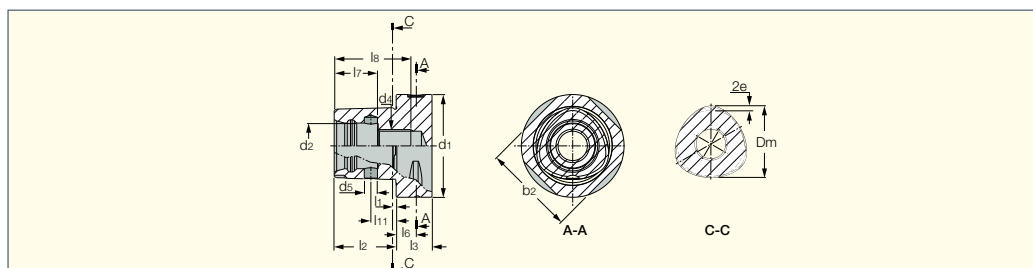
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CAMFIX

CAMFIX (ISO 26623-1)

CAMFIX ISO 26623-1

Toolholder Standard

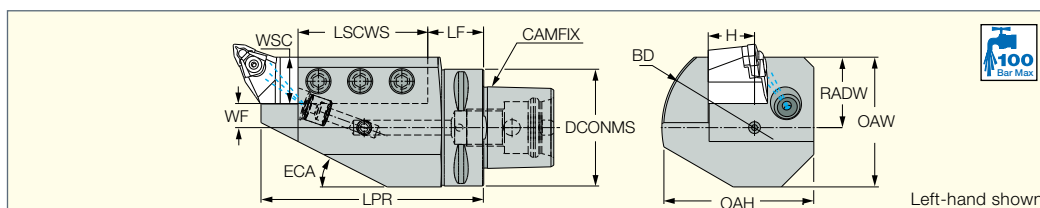


CAMFIX	b ₂	d ₁ ±0.1	d ₂	d ₄	d ₅ ±0.1	D _m	e	l ₁	l ₂ ±0.1	l ₃ min	l ₆ ±0.15	l ₇ ±0.15	l ₈ min	l ₁₁ ±0.1
C3	28,3	32	15	M12x1.5	3,6	22	0,7	2,5	19	15	6	13	25	8
C4	35,3	40	18	M14x1.5	4,6	28	0,9	2,5	24	20	8	15	30	11,5
C5	44,4	50	21	M16x1.5	6,1	35	1,12	3	30	20	10	20	37	14
C6	55,8	63	28	M20x2	8,1	44	1,4	3	38	22	12	27	47	15,5
C8	71,1	80	32	M20x2	9,1	55	2	3	48	30	12	28	48	25
C8X	88,7	100	32	M20x2	9,1	55	2	3	48	32	16	28	48	25
C10	88,3	100	43	M24x2	12	72	2,8	3	60	36	16	40	70	26,5

CAMFIX

C#-ASHR/L

Holders with CAMFIX
Exchangeable Shanks for
External Square-Shank Tools



Designation	DCONMS	LPR	LSCWS	LF	WF	H	WSC	OAH	RADW	OAW	BD	ECA
C4 ASHR/L 16-1	40.00	104.00	70.00	34.00	7.00	16.0	16.0	50.0	23.0	43.50	60.00	30
C5 ASHR/L 20-1	50.00	98.00	63.50	24.50	10.00	20.0	20.0	78.0	30.0	59.00	90.00	30
C6 ASHR/L 20-1	63.00	100.00	63.50	26.50	10.00	20.0	20.0	78.0	30.0	59.00	90.00	30
C6 ASHR/L 25-1	63.00	120.00	70.00	30.00	13.00	25.0	25.0	82.0	38.0	70.00	100.00	27
C8 ASHR/L 32-1	80.00	140.00	90.00	40.00	8.00	32.0	32.0	87.0	40.0	80.00	110.00	27

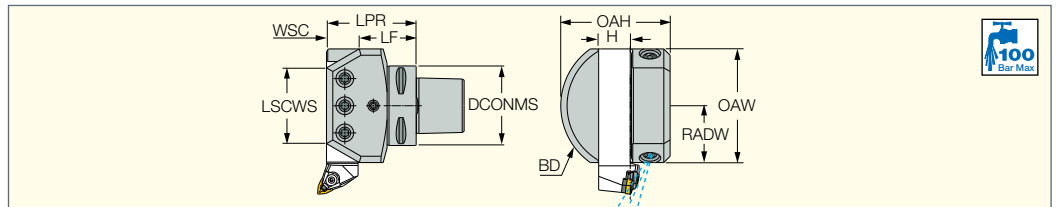
Spare Parts

Designation						
C4 ASHR/L 16-1	SR M8x16 DIN915	HW 5.0°	SATZ-M10X1-M5	COOLING TUBE C4*	WRENCH NOZZLE HP M10°	WRENCH COOL TUBE C4*
C5 ASHR/L 20-1	SR M10x25 DIN915	HW 5.0°	SATZ-M10X1-M5	COOLING TUBE C5*	WRENCH NOZZLE HP M10°	WRENCH COOL TUBE C5*
C6 ASHR/L 20-1	SR M10x25 DIN915	HW 5.0°	SATZ-M10X1-M5	COOLING TUBE C6*	WRENCH NOZZLE HP M10°	WRENCH COOL TUBE C6*
C6 ASHR/L 25-1	SR M12x30 DIN915	HW 6.0°	SATZ-M12X1-M6	COOLING TUBE C6*	WRENCH NOZZLE HP M12°	WRENCH COOL TUBE C6*
C8 ASHR/L 32-1	SR M12x30 DIN915	HW 6.0°	SATZ-M12X1-M6	COOLING TUBE C8*	WRENCH NOZZLE HP M12°	WRENCH COOL TUBE C8*

* Optional, should be ordered separately

C#-ASHA

Perpendicular Holders with
CAMFIX Shanks for External
Square-Shank Tools



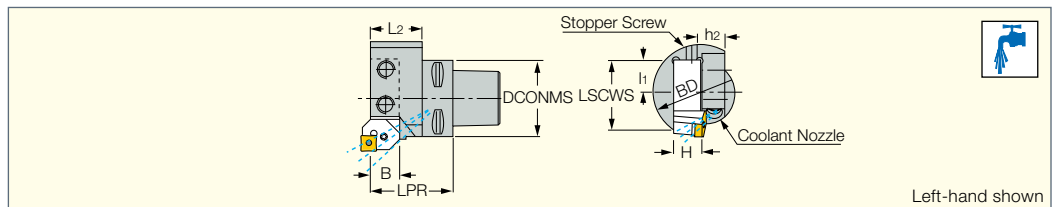
Designation	DCONMS	H	WSC	LPR	LSCWS	LF	RADW	OAW	OAH	BD
C5 ASHA 20	50.00	20.0	20.0	58.00	46.00	38.00	38.0	76.00	76.5	90.00
C6 ASHA 20	63.00	20.0	20.0	60.00	46.00	40.00	38.0	76.00	76.5	90.00
C6 ASHA 25	63.00	25.0	25.0	71.00	61.00	46.00	45.0	90.00	86.6	110.00
C8 ASHA 32	80.00	32.0	32.0	85.00	80.00	53.00	55.0	110.00	95.0	142.00

Spare Parts

Designation						
C5 ASHA 20	SR M10X25 DIN915	HW 5.0°	SATZ-M10X1-M5	WRENCH NOZZLE HP M10°	COOLING TUBE C5°	WRENCH COOL TUBE C5°
C6 ASHA 20	SR M10X25 DIN915	HW 5.0°	SATZ-M10X1-M5	WRENCH NOZZLE HP M10°	COOLING TUBE C6°	WRENCH COOL TUBE C6°
C6 ASHA 25	SR M12X30 DIN915	HW 6.0°	SATZ-M12X1-M6	WRENCH NOZZLE HP M12°	COOLING TUBE C6°	WRENCH COOL TUBE C6°
C8 ASHA 32	SR M12X30 DIN915	HW 6.0°	SATZ-M12X1-M6	WRENCH NOZZLE HP M12°	COOLING TUBE C8°	WRENCH COOL TUBE C8°

C#-ADE

Holders with CAMFIX
Exchangeable Shanks for
External Square-Shank Tools



Designation	DCONMS	LPR	L2	B	BD	LSCWS	I1	H	h2
C3 ADE 16R/L	32.00	45.00	28.10	16.0	65.00	45.0	20.00	16.0	20.0
C4 ADE-20R/L	40.00	49.20	29.10	20.0	87.00	57.0	32.00	20.0	26.0
C5 ADE-20R/L	50.00	55.20	35.10	20.0	87.00	57.0	32.00	20.0	26.0

• Use the tools with AD suffix • Regular tools should be shortened

For tools, see pages: BGTR/L-B-JHP (448) • DCLNR/L-JHP-MC (22) • DDJNR/L-JHP-MC (27) • DWLNR/L-JHP-MC (8) • PCHRL/L-27-JHP (321) • PCLXR/L (48) • PCLXR/L-JHP (48)

Spare Parts

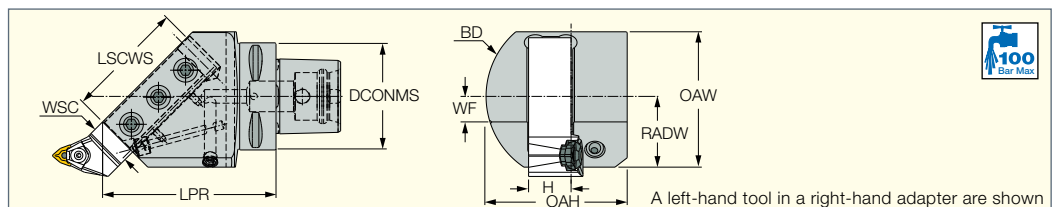
Designation							
C3 ADE 16R/L	SR M10X20 DIN915	HW 3.0°	SR M6X8 DIN916(a)	HW 5.0°	COOLING TUBE C3°	WRENCH COOL TUBE C3°	SATZ-M8X1-M3
C4 ADE-20R/L	SR M10X16 DIN912	HW 4.0	SR M8X10 DIN913(a)	HW 8.0°	COOLING TUBE C4°	WRENCH COOL TUBE C4°	SATZ-M10X1-M5
C5 ADE-20R/L	SR M10X16	HW 4.0	SR M8X10 DIN916(a)	HW 8.0°	COOLING TUBE C5°	WRENCH COOL TUBE C5°	EZ 125

* Optional, should be ordered separately

(a) Stopper screw

C#-ASHR/L-45

Holders with CAMFIX
Exchangeable Shanks Carrying
Square Shank Tools for 45°
Mounting on Turn-Mill Machines



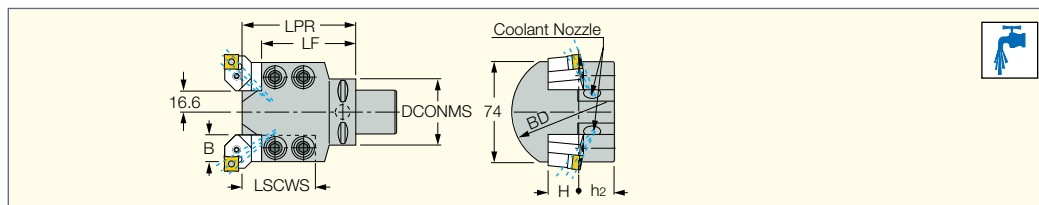
Designation	DCONMS	H	WSC	LSCWS	LPR	OAH	RADW	OAW	WF	BD
C5 ASHR/L 20-45	50.00	20.0	20.0	-	96.30	62.0	36.0	67.50	15.00	72.00
C6 ASHR/L 20-45	63.00	20.0	20.0	-	98.30	62.0	36.0	67.50	15.00	72.00
C6 ASHR/L 25-45	63.00	25.0	25.0	70.00	102.00	83.0	41.6	79.60	15.00	100.00
C8 ASHR/L 32-45	80.00	32.0	32.0	100.00	140.00	110.0	50.0	110.00	17.00	140.00

Spare Parts

Designation						
C5 ASHR/L 20-45	SR M10X25 DIN915	HW 5.0°	SATZ-M10X1-M5	WRENCH NOZZLE HP M10°	COOLING TUBE C5°	WRENCH COOL TUBE C5°
C6 ASHR/L 20-45	SR M10X25 DIN915	HW 5.0°	SATZ-M10X1-M5	WRENCH NOZZLE HP M10°	COOLING TUBE C6°	WRENCH COOL TUBE C6°
C6 ASHR/L 25-45	SR M12X30 DIN915	HW 6.0°	SATZ-M10X1-M5	WRENCH NOZZLE HP M10°	COOLING TUBE C6°	WRENCH COOL TUBE C6°
C8 ASHR/L 32-45	SR M12X30 DIN915	HW 6.0°	SATZ-M12X1-M6	WRENCH NOZZLE HP M12°	COOLING TUBE C8°	WRENCH COOL TUBE C8°

CAMFIX**C#-ADES**

Holders with CAMFIX
Exchangeable Shanks for
External Square-Shank Tools



Designation	DCONMS	LPR	LSCWS	LF	B	BD	H	h ₂
C4 ADES-20	40.00	85.00	54.00	71.00	20.0	90.00	20.0	26.0
C5 ADES-20	50.00	85.00	54.00	71.00	20.0	90.00	20.0	26.0

• Use the tools with AD suffix. Regular tools should be shortened.

For tools, see pages: SER/L-JHP (653)

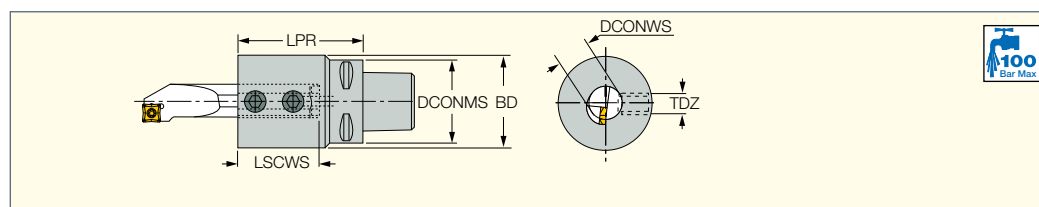
Spare Parts

Designation					
C4 ADES-20	SR M10X16	SR M8X6 DIN913	SATZ-M10X1-M5	COOLING TUBE C4*	WRENCH COOL TUBE C4*
C5 ADES-20	SR M10X16	SR M8X6 DIN913	SATZ-M10X1-M5	COOLING TUBE C5*	WRENCH COOL TUBE C5*

* Optional, should be ordered separately

CAMFIX**C#-ADI**

Holders with CAMFIX
Exchangeable Shanks
for Boring Bars



Designation	DCONMS	LPR	LSCWS	DCONWS	BD	TDZ	kg				
C3 ADI 10	32.00	50.00	20.0	10.00	36.00	M6	0.30	SR M6X10 DIN1835B	HW 3.0*	COOLING TUBE C3*	WRENCH COOL TUBE C3*
C3 ADI 12	32.00	50.00	21.5	12.00	36.00	M8	0.30	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C3*	WRENCH COOL TUBE C3*
C3 ADI 16	32.00	50.00	29.5	16.00	36.00	M8	0.30	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C3*	WRENCH COOL TUBE C3*
C4 ADI 10	40.00	50.00	20.0	10.00	36.00	M6	0.47	SR M6X10 DIN1835B	HW 3.0*	COOLING TUBE C4*	WRENCH COOL TUBE C4*
C4 ADI 12	40.00	50.00	24.0	12.00	36.00	M8	0.46	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C4*	WRENCH COOL TUBE C4*
C4 ADI 16	40.00	50.00	32.0	16.00	36.00	M8	0.43	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C4*	WRENCH COOL TUBE C4*
C4 ADI 20	40.00	60.00	40.0	20.00	36.00	M10	0.47	SR M10X12 DIN1835-B	HW 5.0*	COOLING TUBE C4*	WRENCH COOL TUBE C4*
C4 ADI 25	40.00	70.00	45.0	25.00	54.00	M12	0.97	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C4*	WRENCH COOL TUBE C4*
C5 ADI 10	50.00	60.00	26.0	10.00	36.00	M6	0.73	SR M6X10 DIN1835B	HW 3.0*	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ADI 12	50.00	60.00	26.0	12.00	36.00	M8	0.72	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ADI 16	50.00	60.00	32.0	16.00	36.00	M8	0.69	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ADI 20	50.00	60.00	40.0	20.00	36.00	M10	0.69	SR M10X12 DIN1835-B	HW 5.0*	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ADI 25	50.00	70.00	50.0	25.00	54.00	M12	1.11	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ADI 32	50.00	100.00	76.0	32.00	68.00	M12	2.15	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C6 ADI 12	63.00	65.00	36.0	12.00	36.00	M8	1.07	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ADI 16	63.00	65.00	36.0	16.00	36.00	M8	1.05	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ADI 20	63.00	65.00	40.0	20.00	36.00	M10	1.00	SR M10X12 DIN1835-B	HW 5.0*	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ADI 25	63.00	76.00	51.0	25.00	54.00	M12	0.80	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ADI 32	63.00	100.00	76.0	32.00	68.00	M12	2.44	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ADI 40	63.00	100.00	76.0	40.00	98.00	M12	4.47	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ADI 50	63.00	115.00	76.0	50.00	98.00	M12	4.80	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C8 ADI 12	80.00	70.00	36.0	12.00	36.00	M8	2.05	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C8*	WRENCH COOL TUBE C8*
C8 ADI 16	80.00	70.00	36.0	16.00	36.00	M8	2.00	SR M8X10 DIN1835-B	HW 4.0*	COOLING TUBE C8*	WRENCH COOL TUBE C8*
C8 ADI 20	80.00	70.00	40.0	20.00	36.00	M10	1.98	SR M10X12 DIN1835-B	HW 5.0*	COOLING TUBE C8*	WRENCH COOL TUBE C8*
C8 ADI 25	80.00	80.00	51.0	25.00	54.00	M12	2.43	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C8*	WRENCH COOL TUBE C8*
C8 ADI 32	80.00	110.00	86.0	32.00	68.00	M12	3.44	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C8*	WRENCH COOL TUBE C8*
C8 ADI 40	80.00	115.00	86.0	40.00	98.00	M12	5.81	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C8*	WRENCH COOL TUBE C8*
C8 ADI 50	80.00	115.00	86.0	50.00	98.00	M12	5.36	SR M12X16 DIN1835-B	HW 6.0*	COOLING TUBE C8*	WRENCH COOL TUBE C8*

• Use the tools with "AD" suffix • Regular tools should be shortened

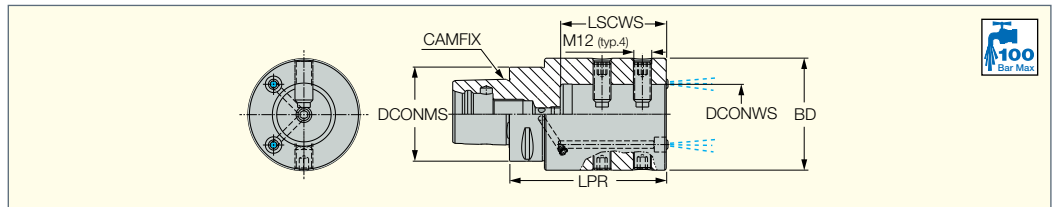
* Optional, should be ordered separately

For tools, see pages: A-PCLXR/L (82)

CAMFIX

C#-ABB

Adapters with CAMFIX
Exchangeable Shanks for Boring
Bars with Reduction Sleeves



Designation	DCONMS	DCONWS	BD	LPR	LSCWS
C4 ABB 25-60	40.00	25.00	63.00	100.00	60.0
C5 ABB 25-60	50.00	25.00	63.00	100.00	60.0
C6 ABB 25-60	63.00	25.00	63.00	100.00	60.0
C6 ABB 40-70	63.00	40.00	75.00	105.00	71.0
C8 ABB 25-60	80.00	25.00	63.00	100.00	60.0
C8 ABB 40-72	80.00	40.00	75.00	105.00	71.0

• For SC reduction sleeves, see page 678

Spare Parts

Designation									
C4 ABB 25-60	SR M10X12 DIN1835-B(a)	SR M10X20 DIN915(b)	SR M10X6DIN913(c)	HW 5.0"	SATZ-M12X1-M6	WRENCH NOZZLE HP M12*	COOLING TUBE C4*	WRENCH COOL TUBE C4*	
C5 ABB 25-60	SR M10X12 DIN1835-B(a)	SR M10X20 DIN915(b)	SR M10X6DIN913(c)	HW 5.0"	SATZ-M12X1-M6	WRENCH NOZZLE HP M12*	COOLING TUBE C5*	WRENCH COOL TUBE C5*	
C6 ABB 25-60	SR M10X12 DIN1835-B(a)	SR M10X20 DIN915(b)	SR M10X6DIN913(c)	HW 5.0"	SATZ-M12X1-M6	WRENCH NOZZLE HP M12*	COOLING TUBE C6*	WRENCH COOL TUBE C6*	
C6 ABB 40-70	SR M12X16 DIN1835-B(a)	SR M12X30 DIN915(b)	SR M10X6DIN913(c)	HW 6.0"	SATZ-M12X1-M6	WRENCH NOZZLE HP M12*	COOLING TUBE C6*	WRENCH COOL TUBE C6*	
C8 ABB 25-60	SR M10X12 DIN1835-B(a)	SR M10X20 DIN915(b)	SR M10X6DIN913(c)	HW 5.0"	SATZ-M12X1-M6	WRENCH NOZZLE HP M12*	COOLING TUBE C8*	WRENCH COOL TUBE C8*	
C8 ABB 40-72	SR M12X16 DIN1835-B(a)	SR M12X30 DIN915(b)	SR M10X6DIN913(c)	HW 6.0"	SATZ-M12X1-M6	WRENCH NOZZLE HP M12*	COOLING TUBE C8*	WRENCH COOL TUBE C8*	

* Optional, should be ordered separately

(a) Used on A-type sleeves

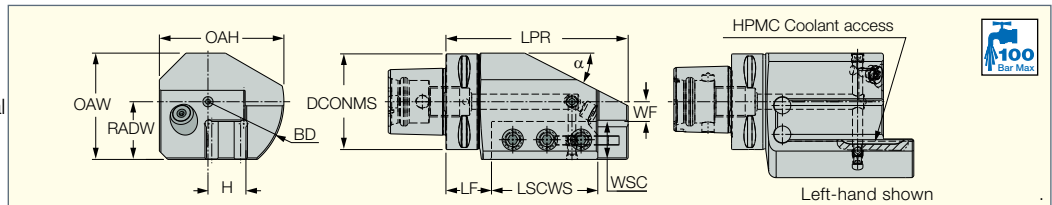
(b) Used on B-type sleeves

(c) Rear stopper screw

CAMFIX

C#-ASHR/L-HPMC

Holders with CAMFIX
Exchangeable Shanks for External
Square-Shank Tools with High
Pressure Multi Connection



Designation	DCONMS	LPR	LSCWS	LF	WF	H	WSC	OAH	RADW	OAW	BD	ECA
C6 ASHR/L 25-1 HPMC	63.00	120.00	70.0	30.00	13.00	25.0	25.0	82.0	38.00	70.00	100.00	27.0

Spare Parts

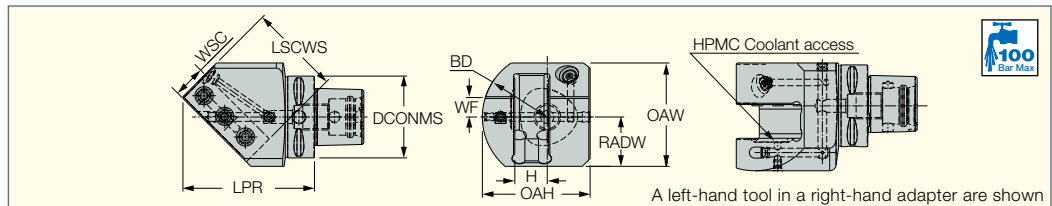
Designation										
C#-ASHR/L-HPMC	COOLING TUBE C6*	HW 6.0"	WRENCH COOL TUBE C6*	WRENCH NOZZLE HP M12*	SATZ-M12X1-M6	SR M12X30 DIN915	SR M8X6 DIN913	SR M6X6 DIN913		

* Optional, should be ordered separately

CAMFIX

C#-ASHR/L-45-HPMC

Holders with CAMFIX
Exchangeable Shanks
Carrying Square Shank Tools
for 45° Mounting on Turn-
Mill Machines with HPMC



Designation	DCONMS	H	WSC	LSCWS	LPR	OAH	RADW	OAW	WF	BD
C6 ASHR/L 25-45 HPMC	63.00	25.0	25.0	70.0	101.30	83.0	38.00	79.60	15.00	100.00

Spare Parts

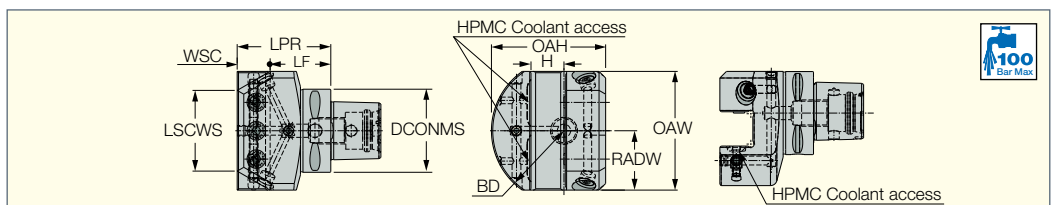
Designation										
C#-ASHR/L-45-HPMC	COOLING TUBE C6*	HW 6.0"	WRENCH COOL TUBE C6*	WRENCH NOZZLE HP M10*	SATZ-M10X1-M5	SR M12X30 DIN915	SR M8X6 DIN913	SR M6X6 DIN913		

* Optional, should be ordered separately

CAMFIX

C#-ASHA-HPMC

Perpendicular Holders with
CAMFIX Shanks for External
Square-Shank Tools with High
Pressure Multi Connection



Designation	DCONMS	H	WSC	LPR	LSCWS	LF	RADW	OAW	OAH	BD
C6 ASHA 25 HPMC	63.00	25.0	25.0	71.00	61.2	46.00	45.00	90.00	86.5	110.00

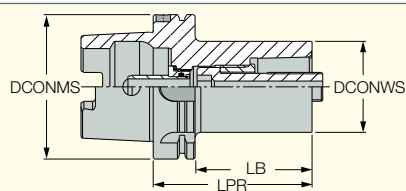
Spare Parts

Designation										
C6 ASHA 25 HPMC	COOLING TUBE C6*	HW 6.0"	WRENCH COOL TUBE C6*	WRENCH NOZZLE HP M12*	SATZ-M12X1-M6	SR M12X30 DIN915	SR M8X6 DIN913	SR M8X10 DIN913	SR M6X6 DIN913	

* Optional, should be ordered separately

CAMFIX HSK**HSK-C#**

CAMFIX (ISO 26623-1)
Holders with HSK DIN 69893
Form A Tapered Shanks



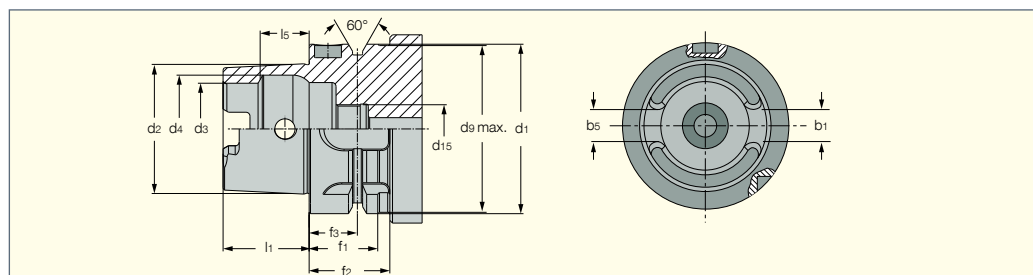
Designation	DCONMS	DCONWS	LPR	LB	kg
C4 AD HSK A63WHX080	63.00	40.00	80.00	54.00	1.10
C5 AD HSK A63WHX90	63.00	50.00	90.00	64.00	1.44
C5 AD HSK A100WHX100	100.00	50.00	100.00	71.00	2.90
C6 AD HSK A100WHX110	100.00	63.00	110.00	81.00	3.61
C8 AD HSK A100WHX120	100.00	80.00	120.00	91.00	4.79
C8 AD HSK A125WHX130	125.00	80.00	130.00	101.00	6.50

• Note: To enable clamping the part to be attached, first remove the cooling tube

Spare Parts

Designation						
C4 AD HSK A63WHX080	SR M14X58 C4	HW 8.0°	MT RING M22X17XC4	COOLING TUBE HSK A63 C5	WRENCH COOL TUBE HSK63°	WRENCH C4 DRW NUT*
C5 AD HSK A63WHX90	SR M16X70 C5	HW 10.0°	MT RING M25X20XC5	COOLING TUBE HSK A63 C5	WRENCH COOL TUBE HSK63°	WRENCH C5 DRW NUT*
C5 AD HSK A100WHX100	SR M16X70 C5	HW 10.0°	MT RING M25X20XC5	COOLING TUBE HSK A100C6/8	WRENCH COOL TUBE HSK100°	WRENCH C5 DRW NUT*
C6 AD HSK A100WHX110	SR M20X87 C6/8	HW 14.0°	MT RING M30X24XC6/8	COOLING TUBE HSK A100C6/8	WRENCH COOL TUBE HSK100°	WRENCH C6-8 DRW NUT*
C8 AD HSK A100WHX120	SR M20X87 C6/8	HW 14.0°	MT RING M30X24XC6/8	COOLING TUBE HSK A100C6/8	WRENCH COOL TUBE HSK100°	WRENCH C6-8 DRW NUT*
C8 AD HSK A125WHX130	SR M20X87 C6/8	HW 14.0°	MT RING M30X24XC6/8	COOLING TUBE HSK A125C8	WRENCH COOL TUBE HSK125°	WRENCH C6-8 DRW NUT*

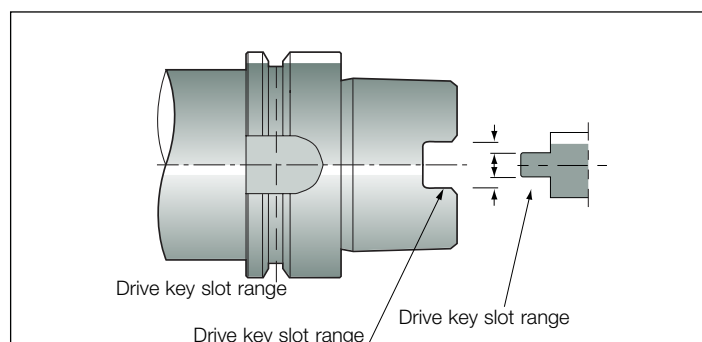
* Optional, should be ordered separately

**HSK A WH Complies
with ICTM Standards
(ISO 12164-3)**


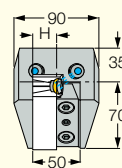
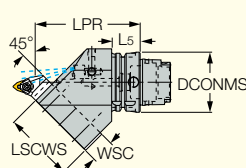
HSK A WH	d1 h10	d2	d3 H10	d4 H11	d5 max	d15	l1-0.2	l5 Js10	b1±0.04	b5±0.035	f1-0.1	f2 min	f3±0.1
63	63	48	34	40	62	M18X1	32	18.13	12.54	12.425	26	30	18
100	100	75	53	63	99	M24X1.5	50	28.56	20.02	19.91	29	34	20

HSK A vs. HSK A...WH Tolerance

ISO STANDARD	12.25	key tolerance	12.35	0.10	Min. gap 0.15	0.08	12.58	key slot tolerance	12.58
HSK-A63 Tolerance									
ICTM STANDARD (ISO 12164-3)	12.2	12.3	12.4	12.5	12.6				
HSK-A63WH Tolerance									

**HSK**

HSK A63WH-ASHN-45
Square Shank Tool Adapters
with HSK Exchangeable
Shanks for 45° Mounting
on Turn-Mill Machines



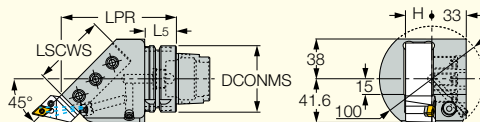
Righth-hand shown

Designation	DCONMS	LPR	LSCWS	L5	H	WSC			
HSK A63WH ASHN 25 45	63.00	110.00	72.00	30.00	25.0	25.0	SR M10X25 DIN912	SR M8X20 DIN916	SATZ-M12X1-M6

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • For using left-hand toolholder, the position of the clamping spacer must be changed • Complies with ICTM standard (ISO 12164-3)

HSK**HSK A63WH-ASHR/L-45**

Square Shank Tool Adapters with HSK-T Exchangeable Shanks for 45° Mounting on Turn-Mill Machines



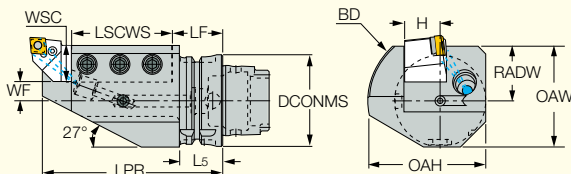
A left-hand tool in a right-hand adapter are shown

Designation	DCONMS	LPR	LSCWS	L5	H		
HSK A63WH ASHR/L 25 45	63.00	110.00	70.00	30.00	25.0	SR M12X30 DIN915	EZ 104

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Complies with ICTM standard (ISO 12164-3)

HSK**HSK A-WH-ASHR/L-1**

Square Shank Tool Adapters with HSK Exchangeable Shanks for Turn-Mill Machines



Left-hand shown

Designation	DCONMS	H	WSC	WF	LPR	LSCWS	LF	L5	OAH	RADW	OAW	BD
HSK A63WH ASHR/L 25 1	63.00	25.0	25.0	13.00	125.00	70.00	35.00	30.00	82.0	38.0	70.00	100.00
HSK A100WH ASHR/L 32 1	100.00	32.0	32.0	8.00	145.00	90.00	45.00	38.00	85.0	40.0	84.00	100.00

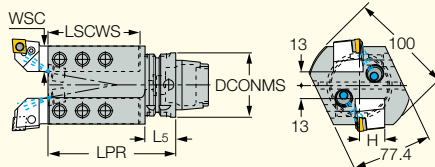
• Complies with ICTM standard (ISO 12164-3) • Not suitable for ATC for some Multi-Tasking Machines models, please consult your MTB • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

Spare Parts

Designation				
HSK A-WH-ASHR/L-1	SR M12X30 DIN915	HW 6.0°	SATZ-M12X1-M6	WRENCH NOZZLE HP M12*

HSK**HSK A63WH-ASHR/L-2**

Twin Square Shank Tool Adapters with HSK Exchangeable Shanks for Turn-Mill Machines



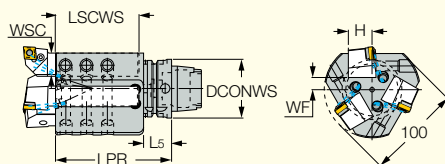
Left-hand shown

Designation	DCONMS	LPR	LSCWS	L5	H	WSC		
HSK A63WH ASHR/L 25 2	63.00	125.00	95.00	30.00	25.0	25.0	SR M12X30 DIN915	SATZ-M12X1-M6

• Complies with ICTM standard (ISO 12164-3) • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

HSK**HSK A63WH-ASHR/L-3**

Triple Square Shank Tool Adapters with HSK Exchangeable Shanks for Mounting on Turn-Mill Machines



Left-hand shown

Designation	DCONMS	LPR	LSCWS	L5	WF	H	WSC		
HSK A63WH ASHR/L 25 3 (1)	63.00	125.00	90.00	30.00	13.00	25.0	25.0	SR M12X30 DIN915	SATZ-M8X1-M3

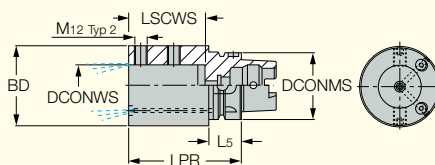
• Complies with ICTM standard (ISO 12164-3) • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

(1) Not suitable for ATC (automatic tool changer) on some multi-tasking machine models, please consult your MTB

For tools, see pages: SVVNN-JHP (416) • SER/L-JHP (653)

HSK**HSK A-WH ABB**

Adapters with HSK Exchangeable Shanks for Boring Bars with Reduction Sleeves



Designation	DCONMS	BD	DCONWS	LPR	LSCWS	L5
HSK A63WH ABB 40	63.00	75.00	40.00	105.00	71.0	30.00
HSK A100WH ABB 40	100.00	82.00	40.00	115.00	71.0	29.00
HSK A100WH ABB 50	100.00	92.00	50.00	125.00	83.0	29.00

• Complies with ICTM standard (ISO 12164-3) • Not suitable for ATC for some Multi-Tasking Machines models, please consult your MTB • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)

Spare Parts

Designation						
HSK A-WH ABB	SR M12X16 DIN1835-B(a)	SR M12X30 DIN915(b)	SR M10X6 DIN913(c)	HW 6.0*	SATZ-M12X1-M6	WRENCH NOZZLE HP M12*

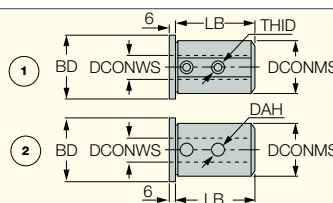
(a) Used on A-type sleeves

(b) Used on B type sleeves

(c) Rear stopper screw

Accessories**SC-T (sleeves)**

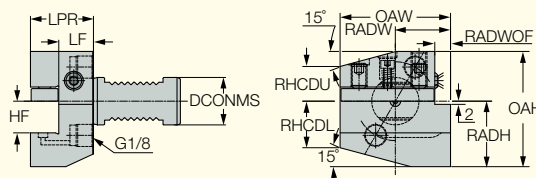
Reduction Sleeves for Holders with Exchangeable Adaptation



Designation	DCONMS	DCONWS	BD	LB	THID	DAH	Fig		
SC 25T10A	25.00	10.00	31.00	56.00	M8	-	1.	SR M8X6 DIN916	HW 4.0*
SC 25T12A	25.00	12.00	31.00	56.00	M8	-	1.	SR M8X6 DIN916	HW 4.0*
SC 25T16B	25.00	16.00	31.00	56.00	-	12.00	2.		
SC 25T20B	25.00	20.00	31.00	56.00	-	12.00	2.		
SC 25T6A	25.00	6.00	31.00	56.00	M6	-	1.	SR M6X6 DIN916	HW 3.0*
SC 25T8A	25.00	8.00	31.00	56.00	M8	-	1.	SR M8X6 DIN916	HW 4.0*
SC 40T10A	40.00	10.00	46.00	60.00	M8	-	1.	SR M8X10 DIN1835-B	HW 4.0*
SC 40T12A	40.00	12.00	46.00	60.00	M8	-	1.	SR M8X10 DIN1835-B	HW 4.0*
SC 40T16B	40.00	16.00	46.00	60.00	-	15.00	2.		
SC 40T20B	40.00	20.00	46.00	60.00	-	15.00	2.		
SC 40T25B	40.00	25.00	46.00	60.00	-	15.00	2.		
SC 40T32B	40.00	32.00	46.00	60.00	-	15.00	2.		
SC 40T6A	40.00	6.00	46.00	60.00	M6	-	1.	SR M6X10 DIN1835B	HW 3.0*
SC 40T8A	40.00	8.00	46.00	60.00	M6	-	1.	SR M8X10 DIN1835-B	HW 4.0*
SC 50T10A	50.00	10.00	56.00	70.00	M8	-	1.	SR M8X6 DIN916	HW 4.0*
SC 50T12A	50.00	12.00	56.00	70.00	M8	-	1.	SR M8X6 DIN916	HW 4.0*
SC 50T16B	50.00	16.00	56.00	80.00	-	15.00	2.		
SC 50T20B	50.00	20.00	56.00	80.00	-	15.00	2.		
SC 50T25B	50.00	25.00	56.00	80.00	-	15.00	2.		
SC 50T32B	50.00	32.00	56.00	80.00	-	15.00	2.		
SC 50T6A	50.00	6.00	56.00	70.00	M6	-	1.	SR M6X6 DIN916	HW 3.0*
SC 50T8A	50.00	8.00	56.00	70.00	M8	-	1.	SR M8X6 DIN916	HW 4.0*

TOOL BLOCKS**VDI-B1/B4A-JHPMC**

Radially Oriented, Short, Right-Hand Holders with VDI DIN69880 Shanks for Square Shank Tools

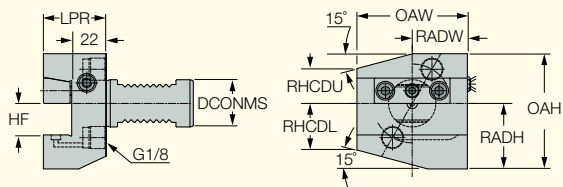


Designation	DCONMS	HF	LPR	OAW	RADW	RADWOF	RHCDL	RHCDU	RADH	OAH
VDI16 B1A-161234-JHPMC	16.00	12.0	34.00	42.00	23.00	5.00	16.00	15.00	22.00	42.0
VDI16 B4A-161234-JHPMC	16.00	12.0	34.00	42.00	23.00	5.00	16.00	15.00	22.00	42.0
VDI20 B1A-201640-JHPMC	20.00	16.0	40.00	55.00	30.00	7.00	19.00	19.00	30.00	55.0
VDI20 B4A-201640-JHPMC	20.00	16.0	40.00	55.00	30.00	7.00	19.00	19.00	30.00	55.0
VDI25 B1A-252040-JHPMC	25.00	20.0	40.00	70.00	35.00	10.00	29.50	22.00	38.50	70.0
VDI30 B1B4A-302040-JHPMC	30.00	20.0	40.00	70.00	35.00	10.00	29.50	22.00	41.50	73.0
VDI40 B1B4A-402544-JHPMC	40.00	25.0	44.00	85.00	42.50	12.50	35.00	30.00	48.00	86.0
VDI50 B1B4A-502544-JHPMC	50.00	25.0	44.00	85.00	42.50	12.50	43.00	30.00	48.00	91.0

• Form B1 radial R.H. short, form B4 radial overhead L.H. short.

TOOL BLOCKS**VDI-B1/B4AK-JHPMC**

Radially Oriented, Short, Right-Hand, Wedge Clamping Holders with VDI DIN69880 Shanks for Square Shank Tools

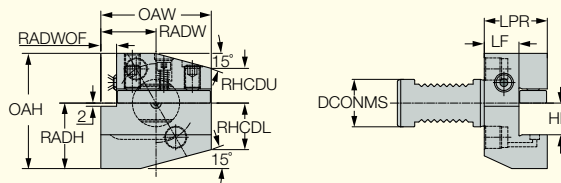


Designation	DCONMS	HF	LPR	OAW	RADW	RHCDL	RHCDU	RADH	OAH
VDI30 B1B4AK-302040-JHPMC	30.00	20.0	40.00	70.00	35.00	29.50	22.00	41.50	73.0
VDI40 B1B4AK-402544-JHPMC	40.00	25.0	44.00	85.00	42.50	35.00	30.00	48.00	86.0
VDI50 B1B4AK-502544-JHPMC	50.00	25.0	44.00	85.00	42.50	43.00	30.00	48.00	91.0

• Form B1 radial R.H. short, form B4 radial overhead L.H. short.

TOOL BLOCKS**VDI-B2/B3A-JHPMC**

Radially Oriented, Short, Left-Hand Holders with VDI DIN69880 Shanks for Square Shank Tools

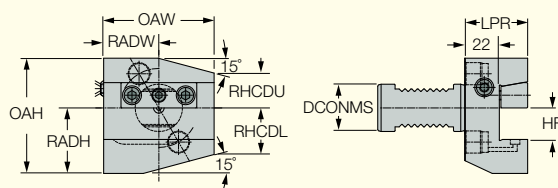


Designation	DCONMS	HF	LPR	OAW	RADW	RADWOF	RHCDL	RHCDU	RADH	OAH
VDI16 B2A-161234-JHPMC	16.00	12.0	34.00	42.00	23.00	5.00	16.00	15.00	22.00	42.0
VDI16 B3A-161234-JHPMC	16.00	12.0	34.00	42.00	23.00	5.00	16.00	15.00	22.00	42.0
VDI20 B2A-201640-JHPMC	20.00	16.0	40.00	55.00	30.00	7.00	19.00	19.00	30.00	55.0
VDI20 B3A-201640-JHPMC	20.00	16.0	40.00	55.00	30.00	7.00	19.00	19.00	30.00	55.0
VDI25 B2A-252040-JHPMC	25.00	20.0	40.00	70.00	35.00	10.00	29.50	22.00	38.50	70.0
VDI30 B2B3A-302040-JHPMC	30.00	20.0	40.00	70.00	35.00	10.00	29.50	27.00	41.50	73.0
VDI40 B2B3A-402544-JHPMC	40.00	25.0	44.00	85.00	42.50	12.50	35.00	30.00	48.00	86.0
VDI50 B2B3A-502544-JHPMC	50.00	25.0	44.00	85.00	42.50	12.50	43.00	38.00	48.00	91.0

• Form B2 radial L.H. short, form B3 radial overhead R.H. short.

TOOL BLOCKS**VDI-B2/B3AK-JHPMC**

Radially Oriented, Short, Left-Hand, Wedge Clamping Holders with VDI DIN69880 Shanks for Square Shank Tools

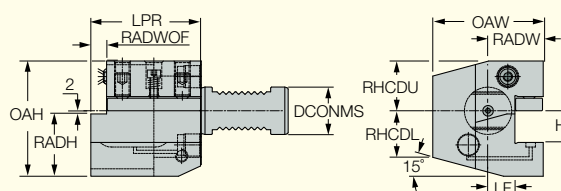


Designation	DCONMS	HF	LPR	OAW	RADW	RHCDL	RHCDU	RADH	OAH
VDI30 B2B3AK-302040-JHPMC	30.00	20.0	40.00	70.00	35.00	29.50	27.00	41.50	73.0
VDI40 B2B3AK-402544-JHPMC	40.00	25.0	44.00	85.00	42.50	35.00	30.00	48.00	86.0
VDI50 B2B3AK-502544-JHPMC	50.00	25.0	44.00	85.00	42.50	35.00	38.00	48.00	91.0

• Form B2 radial L.H. short, form B3 radial overhead R.H. short.

TOOL BLOCKS**VDI-C1/C4A-JHPMC**

Axially Oriented, Short, Right-Hand Holders with VDI DIN69880 Shanks for Square Shank Tools

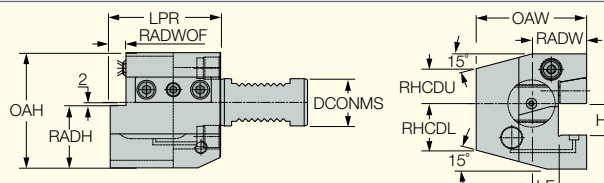


Designation	DCONMS	HF	LPR	OAW	RADW	LF	RADWOF	RHCDL	RHCDU	RADH	OAH
VDI16 C1C4A-161244-JHPMC	16.00	12.0	44.00	43.00	5.00	13.00	5.00	15.00	15.00	23.00	45.0
VDI20 C1C4A-201655-JHPMC	20.00	16.0	55.00	52.00	7.00	13.00	7.00	19.00	19.00	23.00	55.0
VDI25 C1C4A-252055-JHPMC	25.00	20.0	55.00	58.00	33.00	13.00	7.00	26.00	28.00	36.00	66.0
VDI30 C1C4A-302070-JHPMC	30.00	20.0	70.00	70.00	35.00	17.00	10.00	26.00	22.00	38.00	70.0
VDI40 C1C4A-402585-JHPMC	40.00	25.0	85.00	85.00	42.50	21.00	12.50	35.00	30.00	48.00	86.0
VDI50 C1C4A-502585-JHPMC	50.00	25.0	85.00	90.50	48.00	26.00	12.50	42.00	35.00	48.00	92.0

• Form C1 axial R.H., form C4 axial overhead L.H. short.

TOOL BLOCKS**VDI-C1/C4AK-JHPMC**

Axially Oriented, Short, Right-Hand, Wedge Clamping Holders with VDI DIN69880 Shanks for Square Shank Tools

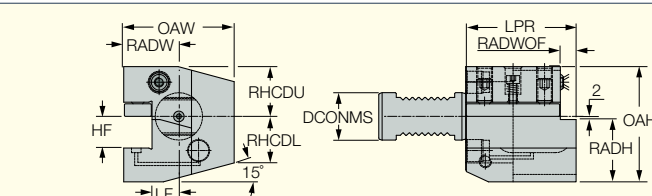


Designation	DCONMS	HF	LPR	OAW	RADW	LF	RADWOF	RHCDL	RHCDU	RADH	OAH
VDI30 C1C4AK-302070-JHPMC	30.00	20.0	70.00	70.00	35.00	17.00	10.00	26.00	22.00	38.00	70.0
VDI40 C1C4AK-402585-JHPMC	40.00	25.0	85.00	85.00	42.50	21.00	12.50	35.00	30.00	48.00	86.0
VDI50 C1C4AK-502585-JHPMC	50.00	25.0	85.00	90.50	48.00	26.00	12.50	42.00	35.00	48.00	92.0

• Form C1 axial R.H., form C4 axial overhead L.H. short.

TOOL BLOCKS**VDI-C2/C3A-JHPMC**

Axially Oriented, Short, Left-Hand Holders with VDI DIN69880 Shanks for Square Shank Tools

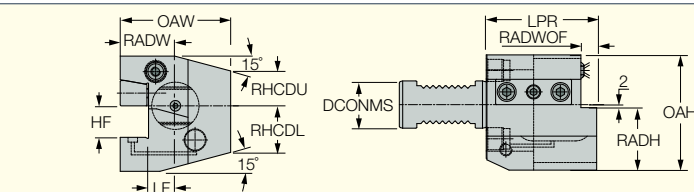


Designation	DCONMS	HF	LPR	OAW	RADW	LF	RADWOF	RHCDL	RHCDU	RADH	OAH
VDI16 C2C3A-161244-JHPMC	16.00	12.0	44.00	43.00	24.00	13.00	5.00	15.00	15.00	23.00	45.0
VDI20 C2C3A-201655-JHPMC	20.00	16.0	55.00	58.00	33.00	19.00	7.00	19.00	19.00	28.00	55.0
VDI25 C2C3A-252055-JHPMC	25.00	20.0	55.00	52.00	37.00	15.00	7.00	38.00	38.00	36.00	66.0
VDI30 C2C3A-302070-JHPMC	30.00	20.0	70.00	76.00	41.00	17.00	10.00	26.00	26.00	38.00	70.0
VDI40 C2C3A-402585-JHPMC	40.00	25.0	85.00	90.00	47.50	21.00	12.50	35.00	30.00	48.00	86.0
VDI50 C2C3A-502585-JHPMC	50.00	25.0	85.00	95.00	52.50	26.00	12.50	42.00	37.00	48.00	92.0

• Form C1 axial R.H., form C4 axial overhead L.H. short.

TOOL BLOCKS**VDI-C2/C3AK-JHPMC**

Axially Oriented, Short, Left-Hand, Wedge Clamping Holders with VDI DIN69880 Shanks for Square Shank Tools

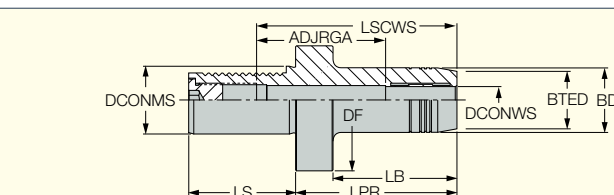
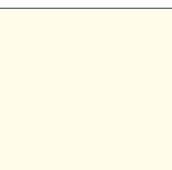


Designation	DCONMS	HF	LPR	OAW	RADW	LF	RADWOF	RHCDL	RHCDU	RADH	OAH
VDI30 C2C3AK-302070-JHPMC	30.00	20.0	70.00	76.00	41.00	17.00	10.00	26.00	22.00	38.00	70.0
VDI40 C2C3AK-402585-JHPMC	40.00	25.0	85.00	90.00	47.50	21.00	12.50	35.00	30.00	48.00	86.0
VDI50 C2C3AK-502585-JHPMC	50.00	25.0	85.00	65.00	52.50	26.00	12.50	42.00	35.00	48.00	92.0

• Form C2 axial L.H., form C3 axial overhead R.H. short.

VDI HYDROFIT**DIN69880-HYDRO**

Hydraulic Chucks with VDI Shanks



Designation	DCONMS	BTED	BD	DF	DCONWS	LS	LPR	LB	ADJRGA	LSCWS	kg
DIN69880 30 HYDRO 20X89	30.00	38.00	42.00	68.00	20.00	55.00	95.00	73.0	37.00	85.0	1.24
DIN69880 30 HYDRO 25X100	30.00	46.00	50.00	68.00	25.00	55.00	100.00	84.0	31.00	85.0	1.20
DIN69880 40 HYDRO 20X95	40.00	38.00	42.00	83.00	20.00	63.00	95.00	73.0	82.00	130.0	1.20
DIN69880 40 HYDRO 25X95	40.00	46.00	50.00	83.00	25.00	63.00	95.00	73.0	76.00	130.0	2.14
DIN69880 40 HYDRO 32X95	40.00	56.00	60.00	83.00	32.00	63.00	95.00	73.0	32.00	90.0	2.00

• Chucking forces will be reduced by 25% if reduction sleeves are used • Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters (ordered separately) • Clamping wrench (wrench HYDRO HEX 4) and test bar should be ordered separately

Spare Parts

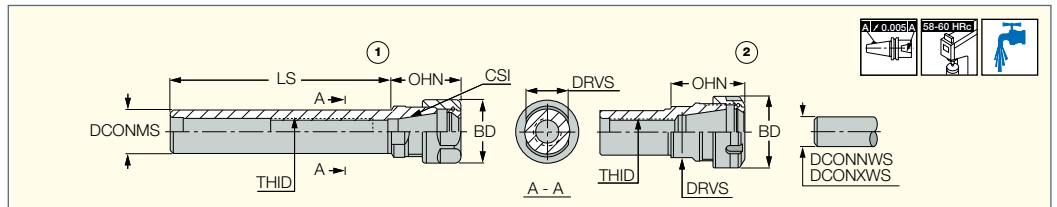
Designation			
DIN69880 30 HYDRO 20X89	HYDRO CLAMP SCREW M8X14	WRENCH HYDRO HEX 4*	TEST BAR HYDRO 20*
DIN69880 30 HYDRO 25X100	HYDRO CLAMP SCREW M8X14	WRENCH HYDRO HEX 4*	TEST BAR HYDRO 25*
DIN69880 40 HYDRO 20X95	HYDRO CLAMP SCREW M8X14	WRENCH HYDRO HEX 4*	TEST BAR HYDRO 20*
DIN69880 40 HYDRO 25X95	HYDRO CLAMP SCREW M8X14	WRENCH HYDRO HEX 4*	TEST BAR HYDRO 25*
DIN69880 40 HYDRO 32X95	HYDRO CLAMP SCREW M8X14	WRENCH HYDRO HEX 4*	TEST BAR HYDRO 32*

* Optional, should be ordered separately

Straight Shank

ST-ER

DIN 6499 ER Collet Chucks
with Straight Shanks



Designation	DCONMS	CSI	DCONNWS ⁽¹⁾	DCONXWS	LS	OHN ⁽²⁾	THID	BD	DRVS ⁽³⁾	Fig	kg
ST 16X 50 ER11 F	16.00	ER11	0.5	7.0	50.00	18.50	M8	19.00	13.0	1.	0.06
ST 20X 50 ER11 F	20.00	ER11	0.5	7.0	50.00	18.50	M10	19.00	17.0	1.	0.10
ST 20X100 ER11	20.00	ER11	0.5	7.0	100.00	18.50	M10	19.00	17.0	1.	0.20
ST 20X150 ER11	20.00	ER11	0.5	7.0	150.00	18.50	M10	19.00	17.0	1.	0.25
ST 20X 50 ER16 F	20.00	ER16	0.5	10.0	50.00	32.30	M12	28.00	19.0	1.	0.07
ST 20X100 ER16	20.00	ER16	0.5	10.0	100.00	30.00	M12	28.00	19.0	1.	0.20
ST 20X100 ER16 F	20.00	ER16	0.5	10.0	100.00	30.00	M12	28.00	19.0	1.	0.25
ST 20X150 ER16	20.00	ER16	0.5	10.0	150.00	30.00	M12	28.00	19.0	1.	0.28
ST 20X 50 ER20 F	20.00	ER20	1.0	13.0	50.00	42.50	M12	34.00	22.0	1.	0.15
ST 25X100 ER20	25.00	ER20	1.0	13.0	100.00	36.00	M16	34.00	22.0	1.	0.30
ST 25X150 ER20	25.00	ER20	1.0	13.0	150.00	36.00	M16	34.00	22.0	1.	0.39
ST 20X 50 ER25 F	20.00	ER25	1.0	16.0	50.00	46.00	M12	42.00	28.0	2.	0.34
ST 20X100 ER25	20.00	ER25	1.0	16.0	100.00	46.00	M12	42.00	28.0	2.	0.29
ST 20X100 ER25 F	20.00	ER25	1.0	16.0	100.00	46.00	M12	42.00	28.0	2.	0.09
ST 25X 50 ER25 F	25.00	ER25	1.0	16.0	50.00	46.00	M16	42.00	28.0	2.	0.22
ST 25X100 ER25	25.00	ER25	1.0	16.0	100.00	46.00	M16	42.00	28.0	2.	0.36
ST 20X 50 ER32 F	20.00	ER32	2.0	20.0	50.00	54.00	M12	50.00	36.0	2.	0.30
ST 20X100 ER32	20.00	ER32	2.0	20.0	100.00	54.00	M12	50.00	36.0	2.	0.40
ST 25X 50 ER32 F	25.00	ER32	2.0	20.0	50.00	52.00	M16X2	50.00	36.0	2.	0.32
ST 30X 50 ER32 F	30.00	ER32	2.0	20.0	50.00	52.00	M18X1.5	50.00	36.0	2.	0.39
ST 32X 50 ER32 F	32.00	ER32	2.0	20.0	50.00	52.00	M18X1.5	50.00	36.0	2.	0.42
ST 32X150 ER32	32.00	ER32	2.0	20.0	150.00	52.00	M18X1.5	50.00	36.0	2.	0.88
ST 40X 75 ER32 F	40.00	ER32	2.0	20.0	75.00	46.00	M22X1.5	50.00	44.0	2.	0.72
ST 25X 50 ER40 F	25.00	ER40	3.0	26.0	50.00	60.00	M16X2	63.00	45.0	2.	0.52
ST 30X 50 ER40 F	30.00	ER40	3.0	26.0	50.00	60.00	M18X1.5	63.00	45.0	2.	0.57
ST 32X 50 ER40 F	32.00	ER40	3.0	26.0	50.00	60.00	M18X1.5	63.00	45.0	2.	0.80
ST 40X 75 ER40 F	40.00	ER40	3.0	26.0	75.00	55.00	M22X1.5	63.00	45.0	2.	0.94
ST 50X 80 ER40 F	50.00	ER40	3.0	26.0	80.00	60.00	M28X1.5	63.00	54.0	2.	1.30
ST 50X 80 ER50 F	50.00	ER50	10.0	34.0	80.00	77.00	M36X1.5	78.00	58.0	2.	1.32

⁽¹⁾ Minimum diameter

⁽²⁾ Minimum overhang

⁽³⁾ Key flat size

Spare Parts

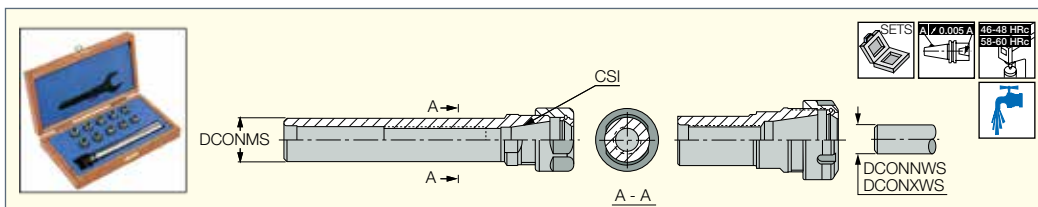
Designation				
ST 16X 50 ER11 F	NUT ER11 UM	WRENCH ER11*	PRESET ER-JET 8X1.25*	
ST 20X 50 ER11 F	NUT ER11 UM	WRENCH ER11*	PRESET ER-JET 10X1.5*	
ST 20X100 ER11	NUT ER11 UM	WRENCH ER11*	PRESET ER-JET 10X1.5*	
ST 20X150 ER11	NUT ER11 UM	WRENCH ER11*	PRESET ER-JET 10X1.5*	
ST 20X 50 ER16 F	NUT ER16 TOP	WRENCH ER16*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 20X100 ER16	NUT ER16 TOP	WRENCH ER16*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 20X100 ER16 F	NUT ER16 TOP	WRENCH ER16*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 20X150 ER16	NUT ER16 TOP	WRENCH ER16*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 20X 50 ER20 F	NUT ER20 TOP	WRENCH ER20*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 25X100 ER20	NUT ER20 TOP	WRENCH ER20*	PRESET ER-JET 16X2*	PRESET ER-JET 16X2L*
ST 25X150 ER20	NUT ER20 TOP	WRENCH ER20*	PRESET ER-JET 16X2*	PRESET ER-JET 16X2L*
ST 20X 50 ER25 F	NUT ER25 TOP	WRENCH ER25*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 20X100 ER25	NUT ER25 TOP	WRENCH ER25*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 20X100 ER25 F	NUT ER25 TOP	WRENCH ER25*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 25X 50 ER25 F	NUT ER25 TOP	WRENCH ER25*	PRESET ER-JET 16X2*	PRESET ER-JET 16X2L*
ST 25X100 ER25	NUT ER25 TOP	WRENCH ER25*	PRESET ER-JET 16X2*	PRESET ER-JET 16X2L*
ST 20X 50 ER32 F	NUT ER32 TOP	WRENCH ER32*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 20X100 ER32	NUT ER32 TOP	WRENCH ER32*	PRESET ER-JET 12X1.75*	PRESET ER-JET 12X1.75L*
ST 25X 50 ER32 F	NUT ER32 TOP	WRENCH ER32*	PRESET ER-JET 16X2*	PRESET ER-JET 16X2L*
ST 30X 50 ER32 F	NUT ER32 TOP	WRENCH ER32*	PRESET ER-JET 18X1.5*	PRESET ER-JET 18X1.5L*
ST 32X 50 ER32 F	NUT ER32 TOP	WRENCH ER32*	PRESET ER-JET 18X1.5*	PRESET ER-JET 18X1.5L*
ST 32X150 ER32	NUT ER32 TOP	WRENCH ER32*	PRESET ER-JET 18X1.5*	PRESET ER-JET 18X1.5L*
ST 40X 75 ER32 F	NUT ER32 TOP	WRENCH ER32*	PRESET ER-JET 22X1.5*	PRESET ER-JET 22X1.5L*
ST 25X 50 ER40 F	NUT ER40 TOP	WRENCH ER40*	PRESET ER-JET 16X2*	PRESET ER-JET 16X2L*
ST 30X 50 ER40 F	NUT ER40 TOP	WRENCH ER40*	PRESET ER-JET 18X1.5*	PRESET ER-JET 18X1.5L*
ST 32X 50 ER40 F	NUT ER40 TOP	WRENCH ER40*	PRESET ER-JET 18X1.5*	PRESET ER-JET 18X1.5L*
ST 40X 75 ER40 F	NUT ER40 TOP	WRENCH ER40*	PRESET ER-JET 22X1.5*	PRESET ER-JET 22X1.5L*
ST 50X 80 ER40 F	NUT ER40 TOP	WRENCH ER40*	PRESET ER-JET 28X1.5*	
ST 50X 80 ER50 F	NUT ER50 UM	WRENCH ER50*		

* Optional, should be ordered separately

Straight Shank

KIT ST-ER

Contains 1 ER Collet Chuck with a Cylindrical Shank and a Set of Collets in Various Bore Sizes



Designation	DCONMS	CSI	Qty	DCONNWS ⁽¹⁾	DCONXWS
KIT ST16X50 7 ER11 F	16	ER11	7	0.50	7.00
KIT ST20X100 7 ER11	20	ER11	7	0.50	7.00
KIT ST20X150 7 ER11	20	ER11	7	0.50	7.00
KIT ST20X50 10 ER16 F	20	ER16	10	0.50	10.00
KIT ST20X100 10 ER16	20	ER16	10	0.50	10.00
KIT ST20X150 10 ER16	20	ER16	10	0.50	10.00
KIT ST20X50 12 ER20 F	20	ER20	12	1.00	12.00
KIT ST25X100 12 ER20	25	ER20	12	1.00	12.00
KIT ST25X150 ER20	25	ER20	12	1.00	12.00

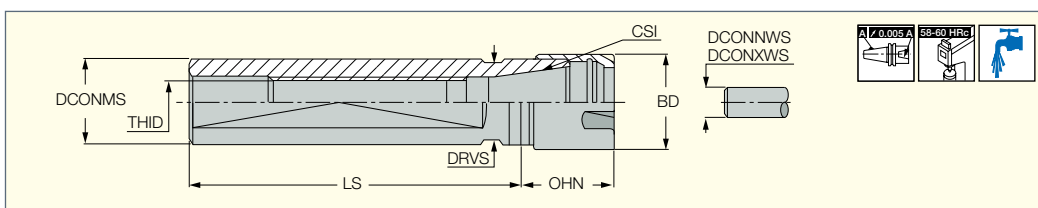
• Each kit contains one collet chuck, a full set of ER collets and a wrench • F suffix indicates a flat on the shank

⁽¹⁾ Minimum diameter

Straight Shank

ST-ER-MF (mini flat)

DIN 6499 ER Mini Collet Chucks with Cylindrical Shanks and a Clamping Flat for Swiss-Type CNC Lathes



Designation	DCONMS	CSI	LS	DCONNWS ⁽⁶⁾	DCONXWS	OHN ⁽⁷⁾	THID	BD	DRVS ⁽⁸⁾	kg
ST 16X 38 ER11 MF ⁽¹⁾	16.00	ER11	38.00	0.5	7.0	18.50	M8X1	16.00	14.0	0.05
ST 16X 50 ER11 MF	16.00	ER11	50.00	0.5	7.0	18.50	M8X1	16.00	13.0	0.07
ST 16X140 ER11 MF	16.00	ER11	140.00	0.5	7.0	18.50	M8X1	16.00	14.0	0.18
ST 16X 35 ER16 MF ⁽¹⁾	16.00	ER16	35.00	0.5	10.0	36.00	M8X1	22.00	17.0	0.12
ST 20X 50 ER16 MF ⁽²⁾	20.00	ER16	50.00	0.5	10.0	26.00	M12X1	22.00	17.0	0.10
ST 20X 70 ER16 MF ⁽²⁾	20.00	ER16	70.00	0.5	10.0	26.00	M12X1	22.00	17.0	0.17
ST 20X120 ER16 MF ⁽²⁾	20.00	ER16	120.00	0.5	10.0	26.00	M12X1	22.00	17.0	0.19
ST 20X140 ER16 MF ⁽²⁾	20.00	ER16	140.00	0.5	10.0	26.00	M12X1	22.00	17.0	0.40
ST 22X 38 ER16 MF ⁽¹⁾	22.00	ER16	38.00	0.5	10.0	26.00	M12X1	22.00	19.0	0.10
ST 22X 70 ER16 MF ⁽¹⁾	22.00	ER16	70.00	0.5	10.0	26.00	M12X1	22.00	19.0	0.16
ST 22X100 ER16 MF ⁽¹⁾	22.00	ER16	100.00	0.5	10.0	28.00	M12X1	22.00	19.0	0.27
ST 22X 80 ER20 MF ⁽¹⁾	22.00	ER20	80.00	1.0	13.0	39.00	M12X1	28.00	21.0	0.21
ST 22X 70 ER25 MF ⁽¹⁾	22.00	ER25	70.00	1.0	16.0	47.00	M12X1	35.00	27.0	0.25
ST 25X 65 ER16 MF	25.00	ER16	65.00	0.5	10.0	28.00	M14X1	22.00	22.0	0.22
ST 25X100 ER20 MF ⁽³⁾	25.00	ER20	100.00	1.0	13.0	28.00	M14X1	28.00	22.0	0.15
ST 25X154 ER20 MF ⁽³⁾	25.00	ER20	154.00	1.0	13.0	28.00	M14X1	28.00	22.0	0.40
ST 25X 75 ER25 MF ⁽⁴⁾	25.00	ER25	75.00	1.0	16.0	48.00	M14X1	35.00	27.0	0.36
ST 25X145 ER25 MF ⁽³⁾	25.00	ER25	145.00	1.0	16.0	36.00	M14X1	35.00	27.0	0.08
ST 32X 70 ER25 MF ⁽⁵⁾	32.00	ER25	70.00	1.0	16.0	30.00	M18X1	35.00	27.0	0.35

⁽¹⁾ For Star machines

⁽²⁾ For Citizen machines

⁽³⁾ For Tornos-Bechler machines

⁽⁴⁾ For Manurhin machines

⁽⁵⁾ For Schutte machines

⁽⁶⁾ Minimum diameter

⁽⁷⁾ Minimum overhang

⁽⁸⁾ Key flat size

Spare Parts

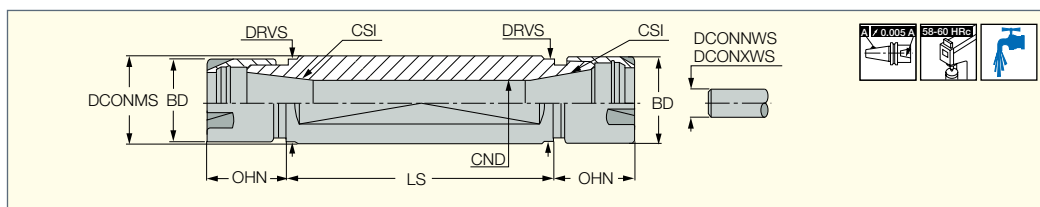
Designation			
ST 16X 38 ER11 MF	NUT ER11 MINI	WRENCH ER11 MINI*	PRESET ER-JET 8X1*
ST 16X 50 ER11 MF	NUT ER11 MINI	WRENCH ER11 MINI*	PRESET ER-JET 8X1*
ST 16X140 ER11 MF	NUT ER11 MINI	WRENCH ER11 MINI*	PRESET ER-JET 8X1*
ST 16X 35 ER16 MF	NUT ER16 MINI	WRENCH ER16 MINI*	PRESET ER-JET 8X1*
ST 20X 50 ER16 MF	NUT ER16 MINI	WRENCH ER16 MINI*	PRESET ER-JET 12X1*
ST 20X 70 ER16 MF	NUT ER16 MINI	WRENCH ER16 MINI*	PRESET ER-JET 12X1*
ST 20X120 ER16 MF	NUT ER16 MINI	WRENCH ER16 MINI*	PRESET ER-JET 12X1*
ST 20X140 ER16 MF	NUT ER16 MINI	WRENCH ER16 MINI*	PRESET ER-JET 12X1*
ST 22X 38 ER16 MF	NUT ER16 MINI	WRENCH ER16 MINI*	PRESET ER-JET 12X1*
ST 22X 70 ER16 MF	NUT ER16 MINI	WRENCH ER16 MINI*	PRESET ER-JET 12X1*
ST 22X100 ER16 MF	NUT ER16 MINI	WRENCH ER16 MINI*	PRESET ER-JET 12X1*
ST 22X 80 ER20 MF	NUT ER20 MINI	WRENCH ER20 MINI*	PRESET ER-JET 12X1*
ST 22X 70 ER25 MF	NUT ER25 MINI	WRENCH ER25 MINI*	PRESET ER-JET 12X1*
ST 25X 65 ER16 MF	NUT ER16 MINI	WRENCH ER16 MINI*	PRESET ER-JET 12X1*
ST 25X100 ER20 MF	NUT ER20 MINI	WRENCH ER20 MINI*	PRESET ER-JET 14X1*
ST 25X154 ER20 MF	NUT ER20 MINI	WRENCH ER20 MINI*	PRESET ER-JET 14X1*
ST 25X 75 ER25 MF	NUT ER25 MINI	WRENCH ER25 MINI*	PRESET ER-JET 14X1*
ST 25X145 ER25 MF	NUT ER25 MINI	WRENCH ER25 MINI*	PRESET ER-JET 14X1*
ST 32X 70 ER25 MF	NUT ER25 MINI	WRENCH ER25 MINI*	PRESET ER-JET 18X1*

Straight Shank

ST-ER-MF-D

(double-ended)

Double-Ended Mini Collets with Cylindrical Shanks and a Clamping Flat



Designation	DCONMS	LS	CSI	DCONNWS ⁽³⁾	DCONXWS	BD	CND	OHN ⁽⁴⁾	DRVS ⁽⁵⁾	kg
ST 16X 50 ER11 MF D	16.00	50.00	ER11	0.5	7.0	16.00	7.5	18.50	14.0	0.07
ST 20X 30 ER11 MF D ⁽¹⁾	20.00	30.00	ER11	0.5	7.0	16.00	7.5	18.50	17.0	0.09
ST 20X 50 ER11 MF D ⁽¹⁾	20.00	50.00	ER11	0.5	7.0	16.00	7.5	18.50	17.0	0.13
ST 20X 55 ER16 MF D ⁽¹⁾	20.00	55.00	ER16	0.5	10.0	22.00	10.5	25.00	17.0	0.12
ST 22X 55 ER16 MF D	22.00	55.00	ER16	0.5	10.0	22.00	10.5	28.00	19.0	0.17
ST 22X 75 ER16 MF D ⁽²⁾	22.00	75.00	ER16	0.5	10.0	22.00	10.5	28.00	19.0	0.21
ST 25X 62 ER16 MF D	25.00	62.00	ER16	0.5	10.0	22.00	10.5	28.00	22.0	0.23
ST 32X 55 ER20 MF D ⁽²⁾	32.00	55.00	ER20	1.0	13.0	28.00	13.5	28.00	27.0	0.34
ST 32X 75 ER20 MF D ⁽²⁾	32.00	75.00	ER20	1.0	13.0	28.00	13.5	28.00	27.0	0.44

⁽¹⁾ For Citizen machines

⁽²⁾ For Star machines

⁽³⁾ Minimum diameter

⁽⁴⁾ Minimum overhang

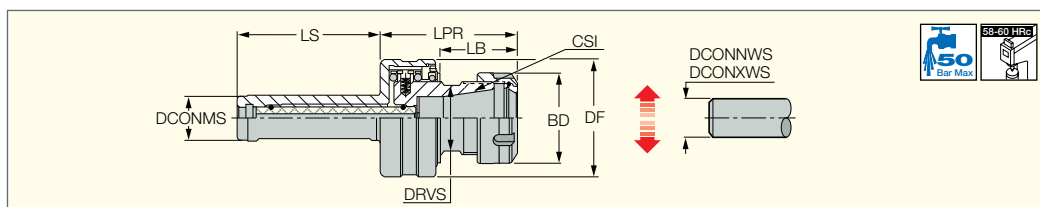
⁽⁵⁾ Key flat size

Spare Parts

Designation		
ST 16X 50 ER11 MF D	NUT ER11 MINI	WRENCH ER11 MINI*
ST 20X 30 ER11 MF D	NUT ER11 MINI	WRENCH ER11 MINI*
ST 20X 50 ER11 MF D	NUT ER11 MINI	WRENCH ER11 MINI*
ST 20X 55 ER16 MF D	NUT ER16 MINI	WRENCH ER16 MINI*
ST 22X 55 ER16 MF D	NUT ER16 MINI	WRENCH ER16 MINI*
ST 22X 75 ER16 MF D	NUT ER16 MINI	WRENCH ER16 MINI*
ST 25X 62 ER16 MF D	NUT ER16 MINI	WRENCH ER16 MINI*
ST 32X 55 ER20 MF D	NUT ER20 MINI	WRENCH ER20 MINI*
ST 32X 75 ER20 MF D	NUT ER20 MINI	WRENCH ER20 MINI*

Straight Shank GFI**GFI ST-ER**

Floating Reamer DIN 6499
Collet Chucks with Cylindrical
Shanks with a Clamping Flat



Designation	DCONMS	CSI	DCONNWS ⁽³⁾	DCONXWS	LS	LPR	LB	BD	DF	RFI	DRVS ⁽⁴⁾	
GFI ST20 ER20 ⁽¹⁾	20.00	ER20	1.0	13.0	65.00	55.50	31.0	34.00	50.00	1.00	22.0	0.56
GFI ST25 ER32 ⁽²⁾	25.00	ER32	2.0	20.0	80.00	76.90	45.9	50.00	65.00	1.60	36.0	1.20

• Maximum 2000 RPM!

⁽¹⁾ Radial float 1 mm

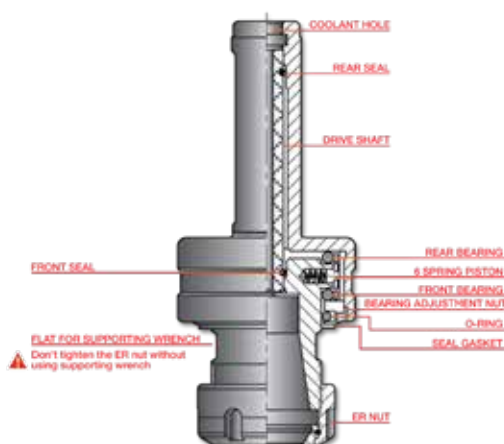
⁽²⁾ Radial float 1.6 mm

⁽³⁾ Minimum diameter

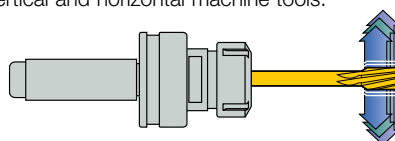
⁽⁴⁾ Key flat size

GFI ER - Floating Reamer Collet Chuck

Floating chuck - adjusts the misalignment between the reamer and workpiece hole to ensure the same accuracy as the reamer itself.

**Application:**

The GFI floating chuck is a unique holder that compensates for the radial misalignment existing in reaming operations carried out on vertical and horizontal machine tools.

**Features:**

Radial self floating mechanism compensates for misalignment between the reamer and workpiece to ensure the same tolerance as the reamer itself.

The special self-centering mechanism eliminates tapered and oversized bores.

Advantages:

Unique ball bearing and axle drive shaft structure enables vertical and horizontal machining.

Precise and efficient clamping with ER spring collets or ER COOLIT collets.

Spare Parts

Designation		
GFI ST20 ER20	NUT ER20 TOP	WRENCH ER20*
GFI ST25 ER32	NUT ER32 TOP	WRENCH ER32*

Complete Machining Solutions

MATERIALS AND GRADES



MATERIAL GROUPS

According to DIN / ISO 513 and VDI 3323

ISO	Material		Condition	Tensile Strength [N/mm ²]	Kc1 ⁽¹⁾ [N/mm ²]	mc ⁽²⁾	Hardness HB	Material No.	
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	1350	0.21	125	1	
		>= 0.25 %C	Annealed	650	1500	0.22	190	2	
		< 0.55 %C	Quenched and tempered	850	1675	0.24	250	3	
		>= 0.55 %C	Annealed	750	1700	0.24	220	4	
			Quenched and tempered	1000	1900	0.24	300	5	
			Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	1775	0.24	200
	Quenched and tempered	930			1675	0.24	275	7	
		1000			1725	0.24	300	8	
		1200			1800	0.24	350	9	
	High alloyed steel, cast steel, and tool steel		Annealed	680	2450	0.23	200	10	
			Quenched and tempered	1100	2500	0.23	325	11	
	Stainless steel and cast steel		Ferritic/martensitic	680	1875	0.21	200	12	
			Martensitic	820	1875	0.21	240	13	
M	Stainless steel		Austenitic, duplex	600	2150	0.20	180	14	
K	Grey cast iron (GG)		Ferritic/pearlitic		1150	0.20	180	15	
			Pearlitic		1350	0.28	260	16	
	Nodular cast iron (GGG)		Ferritic		1225	0.25	160	17	
			Pearlitic		1350	0.28	250	18	
	Malleable cast iron		Ferritic		1225	0.25	130	19	
			Pearlitic		1420	0.3	230	20	
N	Aluminum-wrought alloy		Not hardenable		700	0.25	60	21	
			Hardenable		800	0.25	100	22	
	Aluminum-cast, alloyed	<=12% Si	Not hardenable		700	0.25	75	23	
			Hardenable		700	0.25	90	24	
	>12% Si	High temperature		750	0.25	130	25		
		>1% Pb		Free cutting		700	0.27	110	26
				Brass		700	0.27	90	27
				Electrolytic copper		700	0.27	100	28
	Non metallic		Duroplastics, fiber plastics					29	
Hard rubber							30		
S	High temperature alloys	Fe based	Annealed		2600	0.24	200	31	
			Hardened		3100	0.24	280	32	
		Ni or Co based	Annealed		3300	0.24	250	33	
			Hardened		3300	0.24	350	34	
			Cast		3300	0.24	320	35	
	Titanium alloys		Pure	RM 400	1700	0.23		36	
			Alpha+beta alloys hardened	RM 1050	2110	0.22		37	
H	Hardened steel		Hardened		4600		55 HRC	38	
			Hardened		4700		60 HRC	39	
	Chilled cast iron		Cast		4600		400	40	
	Cast iron		Hardened		4500		55 HRC	41	

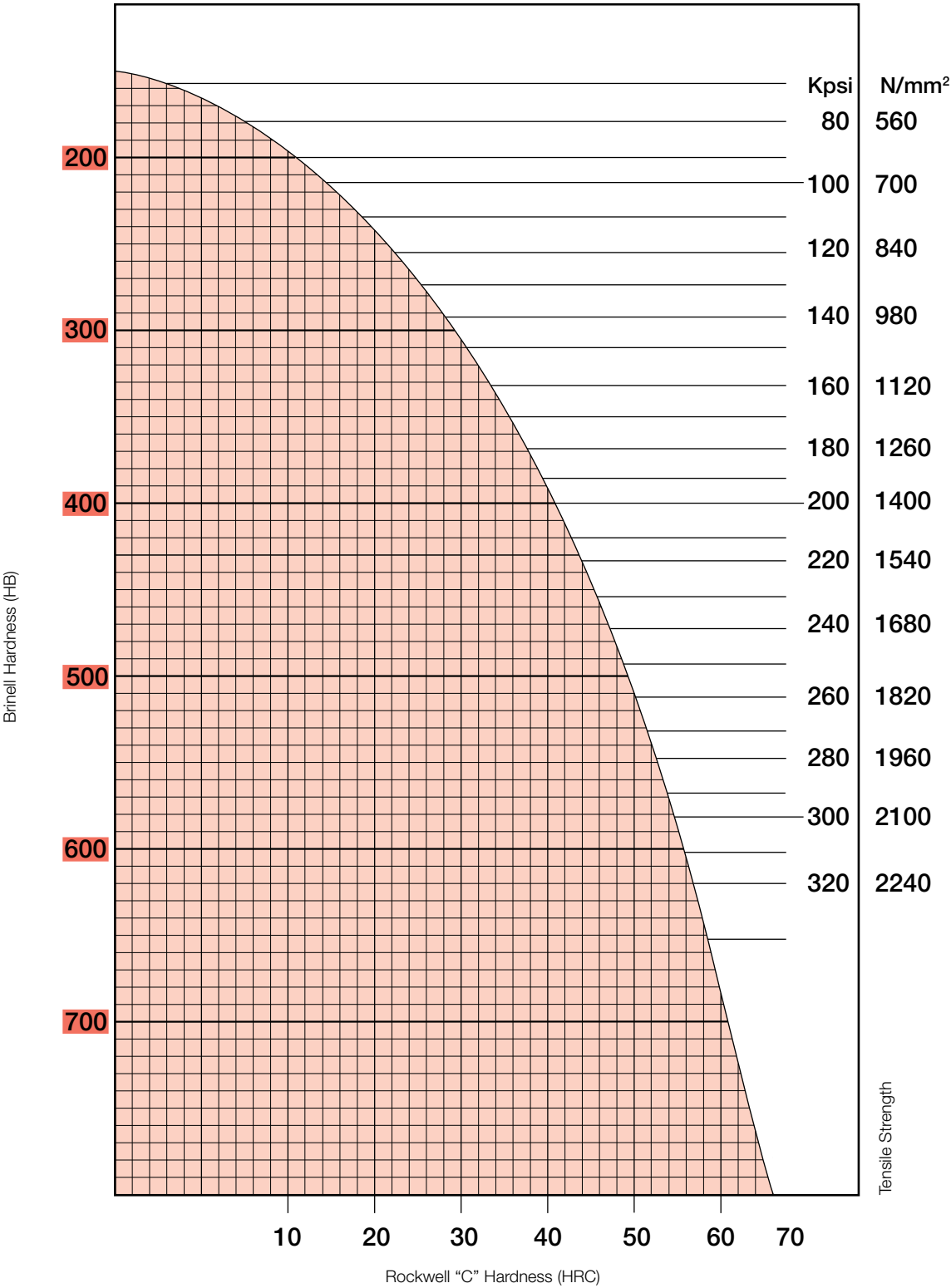
Steel Stainless Steel Cast Iron

Nonferrous High Temp. and Titanium Alloys Hardened Steel and Cast Iron

⁽¹⁾ Specific cutting force for 1 mm² chip section.

⁽²⁾ Chip thickness factor.

Hardness Conversion Table



ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

Mtl. No.			
	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
1		1.0028 Ust 34-2 (S250G1T)	
1		1.0034 RSt 34-2 (S250G2T)	1449 34/20HR; 1449 34/20HS; 1449 34/20CR; 1449 34/20CS
1		1.0035 St185 (Fe 310-0); St 33	Fe 310-0; 1449 15HR; 1449 15HS
1	A 570 Gr. 33; A 570 Gr. 36	1.0036 S235JRG1; (Fe 360 B); Ust 37-2	Fe 360 B; 4360-40 B
1		1.0037 S235JR (Fe 360 B); St 37-2	Fe 360 B; 4360-40 B
1	A 570 Gr. 40	1.0044 S275JR (Fe 430 B); St44-2	Fe 430 B FN; 1449 43/25 HR; 1449 43/25HS; 4360-43 B
1		1.0045 S355JR	4360-50 B
1	A 570 Gr.50; A 572 Gr.50	1.0050 E295 (Fe 490-2); St 50-2	Fe 490-2 FN; 4360- 50 B
1	A 572 Gr. 65	1.0060 E335 (Fe 590-2); St 60-2	Fe 60-2; 4360-55 E; 4360-55 C
1		1.0112 P235S	1501-164-360B LT20
1		1.0114 S235JU; St 37-3 U	4360-40C
1		1.0130 P265S	1501-164-400B LT 20
1		1.0143 S275J0; St 44-3 U	4360-43C
1	A 573 Gr. 70; A 611 Gr.D	1.0144 S275J2G3 (Fe 430 D 1); St 44-3	Fe 430 D1 FF; 4360- 43 C; 4360-43 D
1		1.0149 S275JOH; RoSt 44-2	4360-43C
1		1.0226 DX51D; St 02 Z	Z2
1	M 1010	1.0301 C10	040 A 10; 045 M 10; 1449 10 CS
1	A 621 (1008)	1.0330 DC 01; St 2; St 12	1449 4 CR; 1449 3 CS
1	A 619 (1008)	1.0333 Ust 3 (DC03G1); Ust 13	1449 2 CR;1449 3 CR

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
A 34-2		Fe 330; Fe 330 B FU		SS 330	
A 34-2 NE		Fe 330 B FN			St2sp; St2ps
A 33	1300	Fe 320	Fe 310-0		St0
	1311; 1312	FE37BFU	AE 235 B; Fe 360 B		16D; 18Kp; St3Kp
E 24-2	1311	Fe 360 B; 1449 37/23 HR	AE 235 B; Fe 360 B	STKM 12 A; STKM 12 AC	
E 28-2	1412	Fe 430 B; Fe 430 B FN	AE 275 B; Fe 430 B FN	SM 400 A; SM 400 B; SM 400 C	St4ps; St4sp
E 36-2	2172	Fe 510 B	AE 355 B		
A 50-2	1550; 2172	Fe 490	a 490-2; Fe 490-2 FN	SS 490	ST5ps; ST5sp
A 60-2	1650	Fe 60-2; Fe 590	A 590-2; Fe 590-2 FN	SM 570	St6ps; St6sp
A37AP		Fe 360 C	AE 235 C		
E 24-3		Fe 360 C	AE 235 C		
A 42 AP			SPH 265		
E 28-3	1414-01	Fe 430 D	AE 275 D		
E 28-3; E 28-4	1411; 1412; 1414	Fe 430 B; Fe 430 C (FN); Fe 430 D (FF)	AE 275 D; Fe 430 D1 FF	SM 400 A; SM 400 B; SM 400 C	St4kp; St4ps; St4sp
	1412-04	Fe 430 C	Fe 430 C		
GC	1151 10	FeP 02 G	FeP 02 G		
AF 34 C 10; XC 10		C 10; 1 C 10	F.1511; F.151.A	S 10C	10
TC	1142	FeP 00; FeP 01	AP 11	SPHD	15 kp
E		FeP 02	AP 02	SPCD	

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

					
Mtl. No.	USA AISI/SAE	Werkstoff	DIN	BS Great Britain EN	
1	A 621 (1008)	1.0334	UStW 23 (DD12G1)		
1	A 622 (1008)	1.0335	DD13; StW 24	1449 1 HR	
1	A 620 (1008)	1.0338	DC04; St 4; St 14	1449 1 CR; 1449 2 CR	
1	A 516 Gr. 65; 55 A 515 Gr. 65; 55 A 414 Gr. C; A 442 Gr.55	1.0345	P235GH/H I	1501 Gr. 141-360; 1501 Gr. 161-360; 151-360 1501 Gr. 161-400; 154-360 1501 Gr. 164-360; 161-360	
1	(M) 1020; M 1023	1.0402	C22	055 M 15; 070 M 20; 1499 22 HS; 1499 22 CS	2C/2D
1	1020	1.0402	C22	050A20	2C/2D
1	1020; 1023	1.0402	C22	055 M 15; 070 M 20	2C
1		1.0425	P265GH/H II	1501 Gr. 161-400; 151-400 1501 Gr. 164-360; 161-400 1501 Gr. 164-400; 154-400	
1	A27 65-35	1.0443	GS-45	A1	
1		1.0539	S355NH;StE 335		
1		1.0545	S355N; StE 355	4360-50E	
1		1.0546	S355NL;TStE 355	4360-50EE	
1		1.0547	S355JOH	4360-50C	
1		1.0549	S355 NLH;TStE 355		
1		1.0553	S355JO;St 52-3U	4360-50C	
1	A 633 Gr.C; A 588	1.0562	P355N; StE 355	1501 Gr.225-490A LT 20	
1		1.0565	P355NH; WStE 355	1501-225-490B LT 20	
1		1.0566	P355NL1; TStE 355	1501-225-490A LT 50	
1	1	1.0570	S355J2G3; St 52-3	Fe 510 D1 FF; 1449 50/35 HR;HS; 4360- 50 D	
1	1213	1.0715	9 SMn 28 (1SMn30)	230 M 07	

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
S C		FeP 12	AP 12	SPHE	10kp
3 C		FeP 13	AP 13	SPHE	08kp
ES	1147	FeP 04	AP 04	SPCE	08jU; JUA
A 37 CP; A 37 AP	1331; 1330	FeE235; Fe 360 1 KW; Fe 360 1KG; Fe 360 2 KW; Fe 360 2 KG	A 37 RC I; RA II	SGV 410; SGV 450; SGV 480; SPV 450; SPV 480	
AF 42 C 20; XC 25; 1 C 22	1450	C 20; C 21; C 25	1 C 22; F.112	S20C	20
CC20	1450	C20; C21	F.112	S22 C	20
AF 42 C 20; XC 25; 1 C 22	1450	C 20;C 21;C 25	1 C 22F.112	S 20 C; S 22 C	
A 42 CP; A 42 AP	1431; 1430; 1432	Fe 410 1KW; Fe 410 1KG; Fe 410 1KT; Fe 410 2KW; Fe 410 2KG	A 42 RC I; A 42 RC II	SPV 315; SPV 355; SG 295; SGV 410; SGV 450; SGV 480	16K; 20K
E 23-45 M	1305				
TSE 355-4	2134-04	Fe 510 B	Fe 355 KGN		
E 355 R	2334-01	FeE 355 KG	AE 355 KG		
E 355 FP	2135-01	FeE 355 KT	AE 355 KT		
TSE 355-3	2172-04	Fe 510 C	Fe 510 C		
	2135	Fe 510 D	FeE 355 KTM		
E 36-3		Fe 510 C			
FeE 355 KG N; E 355 R/FP; A 510 AP	2106	FeE 355 KG; FeE 355 KW	AEE 355 KG; AEE 355 DD	SM 490 A; SM 490 B; SM 490 C; SM 490 YA; SM 490YB	15GF
A 510 AP	2106	FeE 355-2			
A 510 FP	2107-01	FeE 355-3			
E 36-3; E 36-4	2132; 2133; 2134; 2174	17GS; 17G1S	AE 355 D; Fe 510 D1 FF	SM 490 A; SM 490 B; SM 490 C; SM 490 YA; SM 490YB	17GS; 17G1S
S 250	1912	CF SMn 28	F.2111 - 11 SMn 28	SUM 22	

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

			
Mtl. No.	USA AISI/SAE	Werkstoff GERMANY DIN	BS Great Britain EN
1	1213	1.0715 9 SMn 28	230 M 07
1	12 L 13	1.0718 9 SMnPb 28 (11SMnPb30)	
1	1108; 1109	1.0721 10 S 20	10S20
1	11 L 08	1.0722 10 SPb 20	
1	11 L 08	1.0722 10 SPb 20	
1	1215	1.0736 9 SMn 36 11SMn37)	
1	12 L 14	1.0737 9 SMnPb 36 (11SMnPb37)	
1		1.0972 S315MC; QStE 300 TM	1501-40F30
1		1.0976 S355MC; QStE 360 TM	1501-43F35
1		1.0982 S460MC; QStE 460 TM	1501-50F45
1		1.0984 S500MC; QStE 500 TM	
1		1.0986 S500MC; QStE 500 TM	1501 - 60F55
1	1010	1.1121 CK 10; (C10E)	040 A 10
1		1.1121 St 37-1	4360 40 A
1	1015	1.1141 CK 15; (C15E)	040 A 15; 080 M 15 32C
1	1020; 1023	1.1151 C22E; CK 22	055 M 15; (070 M 20)
1		1.2083	
1	A572-60	1.8900 StE 380	4360 55 E
1	A36	St 44-2	4360 43 A
1		StE 320-3Z	1 501 160
2	(M) 1025	1.0406 C 25	070 M 26
2		1.0416 GS-38	
2	A 537 Cl.1; A 414 Gr. G; A 612	1.0473 P355GH; 19 Mn 6	
2	1035	1.0501 C35	080 A 32; 080 A 35; 080 M 36; 1449 40 CS
2	1045	1.0503 CF 45; (C45G)	060 A 47; 080 M 46

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
S 250	1912	CF 9 SMn 28	11 SMn 28	SUM 22	
S 250 Pb	1914	CF 9 SMnPb 28	F.2112-11 SMnPb 28	SUM 22 L; SUM 23 L; SUM 24 L	
10S20; 10 F 2		CF 10 S 20	F. 2121 - 10 S 20		
10PbF 2		CF 10 SPb 20	F.2122-10 SPb 20		
10 PbF 2		CF 10 SPb 20	10 SPb 20		
S 300		CF 9 Mn 36	F.2113 - 12 SMn 35	SUM 25	
S 300 Pb	1926	CF 9 SMnPb 36	F.2114- 12 SMnPb 35		
E 315 D					
E 355 D	2642	FeE 355TM			
E 490 D	2662	FeE 490 TM			
E 560 D		FeE 560 TM			
XC 10	1265	C 10; 2 C 10; 2 C 15	F-1510-C 10 K	S 9 CK; S 10 C	08;10
	1300				
XC 12; XC 15; XC 18	1370	C 15; C 16	F.1110-C 15 K; F.1511-C 16 K	S 15; S 15 CK	15
2 C 22; XC 18; XC 25	1450	C 20; C 25	F.1120-C 25 K	S 20 C; S 20 CK; S 22 C	20
	2314				
	2145	FeE390KG		S25C	
NFA 35-501 E 28	1411				
	1421				
1 C 25		C 25; 1 C 25			
20-400 M	1306				
A 52 CP	2101; 2102	Fe E 355-2	A 52 RC I, RA II	SGV 410; SGV 450; SGV 480	
1 C 35; AF 55 C 35; XC 38	1572; 1550	C 35; 1 C 35	F.113	S 35 C	35
XC 42 H 1 TS	1672	C 43; C 46		S 45 C	45

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

Mtl. No.			
	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
2	1040	1.0511 C40	080 M 40
2		1.0540 C 50	
2	A27 70-36	1.0551 GS-52	A2
2	A148 80-40	1.0553 GS-60	A3
2	A738	1.0577 S355J2G4 (Fe 510 D 2)	Fe 510 D2 FF; 1501 Gr.224-460; 1501 Gr. 224-490
2	1140	1.0726 35 S 20	212 M 36 8M
2	1146	1.0727 45 S 20 (46S20)	
2	1035; 1041	1.1157 40Mn4	150 M 36 15
2	1025	1.1158 C25E; CK 25	(070 M 25)
2	1536	1.1166 34Mn5	
2	1330	1.1170 28Mn6	(150 M 28); (150 M 18) 14A
2		1.1178 C30E; CK 30	080M30
2	1035	1.1180 C35R; Cm 35	080 A 35
2	1035; 1038	1.1181 C35E; CK 35	080 A 35; (080 M 36)
2	1035	1.1181 C35E; CK 35	080 A 35; (080 M 36)
2	1035	1.1183 Cf 35 (C35G)	080 A 35
2	1042	1.1191 GS- Ck 45	080 A 46
2	1049; 1050	1.1206 C50E; CK 50	080 M 50
2	1050; 1055	1.1213 Cf 53; (C53G)	070 M 55
2	4520	1.5423 22Mo4	1503-245-420
3	A 516 Gr.70; A 515 Gr. 70; A 414 Gr.F; A 414 Gr.G	1.0481 P295GH; 17 Mn 4	1501 Gr. 224

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
1 C 40; AF 60 C 40		C40; 1 C 40	F.114.A		
	1674	C 50	1 C 50		
280-480 M	1505				
320-560 M	1606				
A 52 FP	2107		A 52 RB II; AE 355 D		
35MF 6	1957		F.210.G		
45 MF 4	1973				
35 M 5; 40 M 5					40G
2 C 25; XC 25		C25	F.1120 - C 25 K	S 25 C; S 28 C	25
			TO.B	SMn 433 H	
20 M 5; 28 Mn 6		C 28 Mn	28 Mn 6	SCMn 1	30G
XC 32		C 30	2 C 30		
3 C 35; XC 32	1572		F.1135-C 35 K-1		
2 C 35; XC 32; XC 38 H 1	1550; 1572	C 35	F.1130-C 35 K	S 35 C	35
XC 38	1572	C36		S35C	
XC 38 H 1 TS	1572	C 36; C 38		S 35 C	35
XC 45	1660	C45	F-1140		
2 C 50; XC 48 H 1; XC 50 H1	1674	C 50			50
XC 48 H TS	1674	C 53		S 50 C	50
		16 Mo 5 KG; 16 Mo 5 KW	F.2602- 16 Mo 5	SB 450 M; SB 480 M	
A 48 CP; A 48 AP		Fe 510 KG; Fe 510 KT; Fe 510 KW; Fe 510-2 KG; Fe 510-2KT; Fe 510-2KW; FeE 295	A 47 RC I; RA II	SG 365; SGV 410; SGV 450; SGV 480	14G2

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

Mtl. No.			
	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
3	1043	1.0503 C35	060 A 47; 080 M 46; 1449 50 HS, 1449 50 CS
3	1074	1.0614 C 76 D; D 75-2	
3	1086	1.0616 C 86 D; D 85-2	
3	1095	1.0618 C 92 D; D 95-2	
3	1036; 1330	1.1165 30Mn5	120 M 36; (150 M 28)
3	1335	1.1167 36Mn5	150 M 36
3	1040	1.1186 C40E; CK 40	060 A 40; 080 A 40; 080 M 40
3	1045	1.1191 C45E; CK 45	080 M 46; 060 A 47
3	1049	1.1201 C45R; Cm 45	080 M 46
3		1.7242 18 CrMo 4	
3	A 387 Gr. 12 Cl	1.7337 16 CrMo 4 4	
3		1.7362 12 CrMo 19 5	3606-625
3	A572-60	17 MnV 6	436055 E
4	1055	1.0535 C55	070 M 55
4	1060	1.0601 C60	060 A 62; 1449 HS; 1449 CS 43D
4	107	1.0603 C67	080 A 67; 1449 70 HS
4	1074; 1075	1.0605 C75	1449 80 HS
4	1055	1.1203 C55E; CK 55	060 A 57; 070 M 55
4	1055	1.1209 C55R; Cm 55	070 M 55
4	1060; 1064	1.1221 C60E; CK 60	060 A 62 43D
4	1070	1.1231 Ck 67; (C67E)	060 A 67
4	1074; 1075; 1078	1.1248 CK 75; (C75E)	060 A 78
4	1086	1.1269 CK 85 (C85E)	

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
1 C 45; AF 65 C 45	1672; 1650	C 45; 1 C 45	F.114	S 45 C	45
XC 75					
XC 80		C 85			
XC 90					
35 M 5			F.8211-30 Mn 5; f.8311-AM 30 Mn 5	SMn 433 H; SCMn 2	27ChGSNMDTL 30GSL
40 M 5	2120		F. 1203-36 Mn 6; F. 8212-36 Mn 5	ssmN 438 (H); SCMn 3	35G2; 35GL
2 C 40; XC 42 H 1		C 40		S 40 C	
2 C 45; XC 42 H 1; XC 45; XC 48 H 1	1672	C 45; C 46	F.1140-C 45 K; F.1142-C48 K	S 45 C; S 48 C	45
3 C 45; XC 42 H 1; XC 48 H 1	1660	C 45	F.1145-C 45K-1; F.1147C 48 K-1	S 50 C	
		A 18 CrMo 4 5 KW			15ChM
Z 10 CD 5.05		16 CrMo 20 5			
NFA 35-501 E 36	2142				
1 C 55; AF 70 C 55	1655	C 55; 1 C 55		S 55 C	55
1 C 60; AF 70 C 55		C 60; 1 C 60		S 58 C	60(G)
XC 65		C 67			
		C 75			75
2 C 55; XC 55 H 1	1655	C 55	F.1150-C 55 K	S 55 C	55
3 C 55; XC 55 H 1		C 55	F.1155-C 55K-1		
2 C 60; XC 60 H 1	1665; 1678	C 60		S 58 C	60; 60G; 60GA
XC 68	1770	C70			65GA; 68GA; 70
XC 75	1774	C 75			75(A)
XC 90		C 90			85(A)

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

				
Mtl. No.	USA AISI/SAE	Werkstoff	DIN	BS Great Britain EN
4	1095	1.1274	Ck 101 (C101E)	
4	W 112	1.1663	C 125 W	
4				
5		1.0070	E360 (Fe 690-2); St 70-2	Fe 690-2 FN
5		1.7238	49 CrMo 4	
5		1.7701	51 CrMoV 4	
6	A 284 Gr.D; A 573 Gr.58; A 570 Gr 36; A 570 Gr C; A 611 Gr. C	1.0116	S235J2G3 (Fe 360 D 1); St 37-3	Fe 360 D1 FF; 1449 37/23 CR; 4360- 40 D
6	5120	1.0841	St 52-3	150 M 19
6	9255	1.0904	55 Si 7	250A53 45
6	9254	1.0904	55 Si 7	250 A 53
6	9262	1.0961	60SiCr7	
6	L3	1.2067	100Cr6	BL3
6	L1	1.2108	90 CrSi 5	
6	L2	1.2210	115CrV3	
6		1.2241	51CrV4	
6		1.2311	40 CrMnMo 7	
6	4135	1.2330	35 CrMo 4	708 A 37
6		1.2419	105WCr6	105WC 13
6	0 1	1.2510	100 MnCrW 4	BO1
6	S1	1.2542	45 WCrV7	BS1
6	S1	1.2550	60WCrV7	
6	L6	1.2713	55NiCrMoV6	
6	L 6	1.2721	50NiCr13	
6	O2	1.2842	90MnCrV8	BO2
6	E 50100	1.3501	100 Cr 2	
6	52100	1.3505	100Cr6	2 S 135; 535 A 99 31
6		1.5024	46Si7	
6	9255	1.5025	51Si7	
6	9255	1.5026	55Si7	251 a 58

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
XC 100	1870	C 100	F-5117	SUP 4	
Y2 120					
	2223				
A 70-2	1655	Fe 70-2; Fe 690	A 690-2; Fe 690-2 FN		
		51 CrMoV 4			
E 24-3; E 24-4	1312; 1313	Fe 360 D1 FF; Fe 360 C FN; Fe 360 D FF; Fe 37-2	AE 235 D; Fe 360 D1 FF		St3kp; St3ps; St3sp; 16D
20 MC 5	2172	Fe 52	F-431		
55S7	2085	55Si8	56Si7		
55 S 7	2090				
60SC6		60SiCr8	60SiCr8		
Y100C6			100Cr6		
	2092	105WCR 5			
100C3		107CrV3KU			
		35 cRmO 8 KU			
34 CD 4	2234	35CrMo4	34CrMo4	SCM435TK	
105WC13	2140	10WCr6	105WCr5		ChWG
8 MO 8	2140	10WCr6	105WCr5	SKS31	
	2710	45 WCrV8 KU	45WCrSi8		5ChW25F
55WC20	2710	58WCr9KU			
55NCDV7			F.520.S	SKT4	5ChNM
55 NCV 6	2550		f-528		
90 MV8					
100 C 6	2258	100Cr6	F.1310 - 100 Cr 6	SUJ2	SchCh 15
45 S 7; Y 46 7; 46 SI 7			F. 1451 - 46 SI 7		
51 S 7; 51 Si 7	2090	48 Si 7; 50 Si 7	F.1450-50 Si 7		
55 S 7	2085; 2090	55 Si 7	F.1440 - 56 Si 7		55S2

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

			
Mtl. No.	USA AISI/SAE	Werkstoff GERMANY DIN	BS Great Britain EN
6	9260	1.5027 60Si7	251 A 60; 251 H 60
6	9260 H	1.5028 65Si7	
6		1.5120 38 MnSi 4	
6	A 204 Gr.A; 4017	1.5415 16Mo3; 15 Mo 3	1503-243 B
6	4419	1.5419 20Mo4	1503-243-430
6	A 350-LF 5	1.5622 14Ni6	
6	3415	1.5732 1 NiCr10	
6	3310; 3314	1.5752 14NiCr14	655M13 36A
6		1.6587 17CrNiMo6	820A16
6		1.6657 14NiCrMo134	
6	5015	1.7015 15 Cr 3	523 M 15
6	5132	1.7033 34Cr4	530A32 18B
6	5140	1.7035 41C r4	530M40 18
6	5140	1.7045 42Cr41	530 A 40
6	5115	1.7131 16MnCr5	527 M 17
6		1.7139 16MnCr5	
6	5155	1.7176 55Cr3	527 A 60 48
6	4135; 4137	1.7220 34CrMo4	708 Aa 37
6	4142	1.7223 41CrMo4	
6	4140	1.7225 42CrMo4	708 M 0
6		1.7228 55NiCrMoV6G	823M30 33
6		1.7262 15CrMo5	
6		1.7321 20 mOcR 4	
6	ASTM A182 F12	1.7335 13CrMo4 4	1501-620Gr27
6	A 182-F11; A 182-F12	1.7335 13 CrMo 4 4	1 501 620 Gr. 27
6	ASTM A 182 F22	1.7380 10CrMo9 10	1501-622gR31; 1501-622gR45
6	A182 F22	1.7380 10 CrMo 9 10	1501-622
6		1.7715 14MoV6 3	1503-660-440

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
60 S 7		60 Si 7	F. 1441 - 60 Si 7		60S2
60 S 7				50 P 7; SUP 6	
15 D 3	2912	16Mo3 KG; 16Mo3KW	F. 2601 - 16 Mo 3		
	2512	G 20 Mo 5; G 22 Mo5		SCPH 11	
16N6		14 Ni 6 KG; 14 Ni 6 KT	F.2641 - 15 Ni 6		
14 NC 11		16NiCr11	15NiCr11	SNC415(H)	
12NC15				SNC815(H)	
18NCD6			14NiCrMo13		
			14NiCrMo131		
12 C 3				SCr415(H)	15Ch
32C4		34Cr4(KB)	35Cr4	SCr430(H)	35Ch
42C4		41Cr4	42Cr4	SCr440(H)	
42 C 4 TS	2245	41Cr4	42Cr4	SCr440	
16 MC 5	2511	16MnCr5	16MnCr5		
	2127				
55 C 3	2253			SUP9(A)	50ChGA
35 CD 4	2234				35ChM
		41CrMo4	42CrMo4	SNB 22-1	40ChFA
42 CD 4	2244				
	2512	653M31			
12 CD 4	2216		12CrMo4		
	2625				
		14CrMo4 5	14CrMo45		
15 CD 4.5	2216		12CrMo4	SCM415(H)	12ChM; 15ChM
12 CD 9.10	2218	12CrMo9, 12CrMo10	TU.H		
			13MoCrV6		

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

Mtl. No.			
	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
6	A355A	1.8509 41CrAlMo 7	905 M 39 41B
7	A570.36	1.0038 S235JRG2 (Fe 360 B); RSt 37-2	Fe 360 B FU; 1449 27/23 CR; 4360- 40 B
7	3135	1.5710 36NiCr6	640A35 111A
7		1.5755 31 NiCr 14	653 M 31
7	8620	1.6523 2 NiCrMo2	805M20 362
7	8740	1.6546 40 NiCrMo 22	311-Tyre 7
7	4340	1.6565 40NiCrMo6	817 M 40 24
7	4130	1.7218 25CrMo4	CDS 110
7		1.7733 24 CrMoV 5 5	
7		1.7755 GS-45 CrMOV 10 4	
7		1.8070 21 CrMoV 5 11	
8	C 45 W	1.173 C 45 W3	
8	4142	1.2332 47 CrMo 4	708 M 40 19A
8	A128 (A)	1.3401 G-X120 Mn 12	
8	3435	1.5736 36 NiCr 10	
8	9840	1.6511 36CrNiMo4	816M40 110
8		1.7361 32 CeMo12	722 M 24 40B
8	6150	1.8159 50 CrV 4	735 A 50 47
8		1.8161 58 CrV 4	
8		1.8515 32 CrMo 12	722 M 24 40B
8		1.8523 39CrMoV13 9	897M39 40C
9		1.4882 X 50 CrMnNiNbN 21 9	
9		1.5864 35 niCr 18	
9		31 NiCrMo 13 4	830 m 31
10	A 619	1.0347 DCO3; RRSt; RRSt 13	1449 3 CR; 1449 2 CR
10	M 1015; M 1016; M 1017	1.0401 C15	080 M 15; 080 M 15; 1449 17 CS
10		1.0723 15 S22; 15 S 20	210 A 15; 210 M 15

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
40 CAD 6.12	2940	41CrAlMo7	41CrAlMo7		
E 24-2NE	1312	Fe 360 B FN	AE 235 B FN; AE 235 B FU; Fe 360 B FN; Fe 360 B FU		St3ps; St3sp
35NC6				SNC236	
18 NC 13					
20 NCD 2	2506	20NiCrMo2	20NiCrMo2	SNCM220(H)	20ChGNM
		40NiCrMo2(KB)	40NiCrMo2	SNCM240	38ChGNM
35 NCD 6	2541	35NiCrMo6(KB)		SNCM 447	38Ch2N2MA
25 CD 4	2225	25CrMo4(KB)	55Cr3	SCM420; SCM430	20ChM; 30ChM
20 CDV 6		21 CrMoV 5 11			
		35 NiCr 9			
XC 48					
42 CD 4	2244	42CrMo4	42CrMo4	SCM (440)	
Z 120 M 12	2183	GX120Mn12	F. 8251-AM-X120Mn12	SCMnH 1; SCMn H 11	110G13L
30 NC 11					
40NCD3		36nCrMo4(KB)	35NiCrMo4	SUP10	40ChN2MA
30 CD 12	2240	30CrMo12	F.124.A		
50CrV4	2230	50CrV4	51CrV4		50ChGFA
30 CD 12	2240	32CrMo12	F.124.A		
		36CrMoV12			
Z 50 CMNb 21.09					
	2534		f-1270		
E		Fep 02	AP 02		08JU
AF 37 C12; XC 18	1350	C15; C16; 1 C 15	F.111	S 15 C	
	1922		F.210.F	SUM 32	

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

Mtl. No.			
	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
10	D 3	1.2080 X 210 Cr 12	BD 3
10	420	1.2083 X 42 Cr 13	
10		1.2085 X 33 CrS 16	
10		1.2162 21 MnCr 5	
10	L2	1.2210 115 Cr V3	
10		1.2311 40 CrMnMo7	
10	P20+S	1.2312 40CrMnMoS 8.6	
10		1.2316 X36CrMo17	X38CrMo16
10	H 11	1.2343 x 38 CrMoV 5 1	BH 11
10		1.234 X 38 CrMoV 5 1	
10	H 13	1.2344 X 40 CrMoV 5 1	BH 13
10	A 2	1.2363 X100 CrMoV 5 1	BA 2
10		1.236 X 100 CrMo V5-1	
10	D 2	1.2379 X 155 CrVMo 12 1	BD2
10		1.238 X 155 CrVMo 12 1	
10	HNV3	1.2379 X210Cr12G	BD2
10	D 4 (D 6)	1.2436 X 210 CrW 12	BD6
10		1.244 X 210 CrW 12	
10	O1	1.251 100 MnCrW 4	B0 1
10	H 21	1.2581 X 30 WCrV 9 3	BH 21
10		1.2601 X 165 CrMoV 12	
10	H 12	1.2606 X 37 CrMoW 5 1	BH 12
10		1.277 X 45 NiCrMo 4	
10	O2	1.284 90 MnCrV 8	B0 2
10	D3	1.3343 S 6-5-2	BM2
10	ASTM A353	1.5662 X8Ni9	1501-509; 1501-510
10	ASM A353	1.5662 X8Ni9	502-650
10	2517	1.568 12Ni19	12Ni19
10	2515	1.5680 12 Ni 19	
10		1.713 16 MnCr 5	
10		1.276 X 19 NiCrMo 4	
11		1.3202 S 12-1-4-5	BT 15

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
Z 200 C 12					
Z40 C14	2314			SUS 420 J 2	
Z35V CD 17.S					
20 MC 5					
100 C3		107 CrV3 KU	F.520 L		
40 CMD 8		35 cRmO 8 KU			
40CMD8S					
Z 38 CDV 5		X 37 CrMoV 5 1 KU			4Ch5MFS
Z 38 CDV 5		X 37 CrMoV 51 KU			
Z 40 CDV 5	2242	X40CrMoV511KU	F-5318	SKD61	4Ch5MF1S
Z 100 CDV 5	2260	X100CrMoV51KU	F-5227	SKD12	
Z 160 CDV 12	2310	X165CrMoW12KU	X160CrMoW12KU	SKD11	
Z 160 CDV 12		X 155 CrVMo 12 1 KU			
Z160CDV12	2736				
Z 200 CD 12	2312	X215CrW 12 1 KU	F-5213		
90 MnWRrV5		95MnWCr 5 KU	95 MnCrW 5		
Z 30 WCV 9		X30WCrV 9 3 KU	F-526	SKD5	3Ch2W8F
	2310				
Z 35 CWDV 5		X 35 CrMoW 05 KU	F.537		5ChNM
45 NCD 16		40 NiCrMoV 8 KU			
90 MV 8		90 MnVCr 8 KU			
Z200C12	2715	X210Cr13KU	X210Cr12	SUH3	R6M5
		14 Ni 6 KG; 14 Ni 6 KT	XBNiO9		
9 Ni		X10Ni9	F-2645	SL9N60 ⁽⁵⁹⁾	
Z18N5					
Z 18 N 5					
16 MC 5					
		HS 12-1-5-5	12-1-5-5		

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

Mtl. No.			
	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
11		1.3207 S 10-4-3-10	BT42
11	T 15	1.3243 S 6-5-2-5	
11		1.3246 S 7-4-2-5	
11		1.3247 S 2-10-1-8	BM 42
11	M 42	1.3249 S 2-9-2-8	BM 34
11	T 4	1.3255 S 18-1-2-5	BT 4
11	M 2	1.3343 S6-5-2	BM2
11	M 7	1.3348 S2-9-2	
11	T 1	1.3355 S 18-0-1	BT 1
11	HNV 3	1.4718 X45CrSi 9 3	401S45 52
11	422	1.4935 x20 CrMoWV 12 1	
12	403	1.4000 X6Cr13	403 S 17
12		1.4001 X6Cr14	
12	(410S)	1.4001 X7 Cr 13	(403 S 7)
12	405	1.4002 X6CrAl12	405S17
12	405	1.4002 X6 CrAl 13	405 S 17
12	416	1.4005 X12CrS 13	416 S 21
12	410; CA-15	1.4006 (G-)X10 Cr 13	410S21 56A
12	430	1.4016 X8Cr17	Z8C17
12	430	1.4016 X6 Cr 17	430 S 15 60
12		1.4027 G-X20Cr14	420C29
12	420	1.4028 X30 Cr 13	420 S 45
12		1.4086 G-X120Cr29	452C11
12	430 F	1.4104 X12CrMoS17	420 S 37
12	440B	1.4112 X90 CrMoV 18	
12	434	1.4113 X6CrMo 17	434 S 17
12		1.4340 G-X40CrNi27 4	
12	S31500	1.4417 X2CrNiMoSi19 5	
12	S31500	1.4417 X2 CrNoMoSi 18 5 3	

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
Z130WKCDV					
KCV 06-05-05-04-02	2723	HS 6-5-2-5	6-5-2-5	SKH55	R6M5K5
Z110 WKCDV 07-05-04	7-4-2-5	HS 7-4-2-5	M 35		
Z110 DKCWV 09-08-04	2-10-1-8	HS 2-9-1-8	M 41		
			2-9-2-8		R6M5
Z 80 WKCV 18-05-04-0					
Z 85 WDCV	2722	HS 6 5 2	F-5604	SKH 51	
Z 100 DCWV 09-04-02-	2782	HS 2 9 2	F-5607		
Z 80 WCV 18-4-01					R18
Z45CS9		X45CrSi8	F322	SUH1	40Ch9S2
Z 6 C 13	2301	X6Cr13	F.3110	SUS403	08Ch13
			F8401		08Ch13
Z 8 C 13	2301				08Ch13
Z8CA12		X6CrAl13			
Z6CA13	2302	X6CrAl13			
Z11 CF 13	2380	X12 CrSC13	F-3411	SUS 416	
Z10 C 13	2302	X12Cr13	F.3401	SUS410	12Ch13
430S15	2320	X8Cr17	F.3113		12Ch17
Z 8 C 17	2320	X8Cr17	F3113	SUS430	12Ch17
Z20C13M					20Ch13L
Z 30 C 13	2304				20Ch13
Z 10 CF 17	2383	X10CrS17	F.3117	SUS430F	
Z 8 CD 17.01	2325	X8CrMo17		SUS434	
	2376				
	2376				

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

Mtl. No.			
	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
12		1.4418 X4 CrNiMo16 5	
12	XM 8; 430 Ti; 439	1.4510	
12	430Ti	1.4510 X6 CrTi 17	
12		1.4511 X 6 CrNb 17	
12	409	1.4512 X 6 CrTi 12; (X2CrTi12)	LW 19; 409 S 19
12		1.4720 X20CrMo13	
12	405	1.4724 X10CrA113	403S17
12	430	1.4742 X10CrA118	439S15 60
12	HNv6	1.4747 X80CrNiSi20	443S65 59
12	446	1.4749 x18 cRn 28	
12	446	1.4762 X10CrA124	
12	EV 8	1.4871 X 53 CrMnNiN 21 9	349 S 54
12	302	x12 CrNi 18 9	302 S 31
12	429	X10 CrNi 15	
13	420	1.4021 X20Cr13	420S37
13	420	1.4031 X40 Cr 13	
13		1.4034 X46Cr13	420 S 45
13	431	1.4057 X20CrNi172	431 S 29 57
13	CA6-NM	1.4313 G-X4 CrNi 13 4	425 C 11
13		1.4544	S. 524; S. 526
13	348	1.4546 X5CrNiNb 18-10	347 S 31; 2 S. 130; 2 S. 143; 2 S. 144; 2 S. 145; S.525; S.527
13		1.4922 x20cRmV12-1	
13		1.4923 X22 CrMoV12 1	
14	304	1.4301 X 5 CrNi 18 9	304 S 15
14	303	1.4305 X10 CrNiS 18 9	303 S 21 58M
14	304L	1.4306 X2CrNi18 9	304S12
14	304L	1.4306 X2 CrNi 18 10	304 S 11
14	CF-8	1.4308 X6 CrNi 18 9	304 C 15 58E
14	301	1.4310 X12CrN i17 7	301 S 21
14	304 LN	1.4311 X2 CrNiN 18 10	304 S 62
14		1.4312 G-X10CrNi18 8	302C25
14	305	1.4312 X8 CrNi 18 12	305 s 19

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
Z6CND16-04-01	2387				
Z 4 CT 17		X 6 CrTi 17	F.3115 -X 5 CrTi 17	SUS 430 LX	08 Ch17T
Z 4 CT 17					08Ch17T
Z 4 CNb 17		X 6 CrNb 17	F.3122-X 5 CrNb 17	SUS 430 LK	
Z 3 CT 12		X 6 CrTi 12		SUH 409	
Z10C13		X10CrA112	F.311		10Ch13SJü
Z10CAS18		X8Cr17	F.3113	SUS430	15Ch13SJü
Z80CSN20.02		X80CrSiNi20	F.320B	SUH4	
Z10CAS24	2322	X16Cr26		SUH446	
Z 52 CMN 21.09		X53CrMnNiN21 9		SUH35, SUH36	55Ch20G9AN4
Z 10 CN 18-09	2330				
Z 20 C 13	2303	14210			20Ch13
Z 40 C 14	-2304				40Ch13
Z40 C 14		X40Cr14	F.3405	SUS420J2	
Z 15 CN 16.02	2321	X16CrNi16	F.3427	SUS431	20Ch17N2
Z 4 CND 13-04 M	2385	(G)X6CrNi304		SCS5	
		X 6 CrNiTi 18 11			08Ch 18N12T
		X 6 CrNiNb 18 11			
	2317	x20cRmOnl 12 01			
Z 5 CN 18.09	2332; 2333				08Ch18N10
Z 8 CNF 18-09	2346	X10CrNiS18.09	F.3508	SUS303	30Ch18N11
Z2CrNi18 10	2352	x2cRn18 11	F.3503	SCS19	
Z 3 CN 19-11	2352	X2CrNi18 11			
Z 6 CN 18-10 M	2333			SUS304L	
Z 12 CN 17.07	2331	X2CrNi18 07	F.3517		
Z 2 CN18.10	2371	X2CrNiN18 10		SUS304LN	
Z10CN18.9M					10Ch18N9L
					10Ch18N9L

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

Mtl. No.			
	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
14	304	1.4350 X5CrNi18 9	304S15 58E
14	S32304	1.4362 X2 CrNiN 23 4	
14	202	1.4371 X3 CrMnNiN 188 8 7	284 S 16
14	316	1.4401 X 5 CrNiMo 17 12 2; (X4 CrNiMo 17 -12-2)	316 S 13; 316 S 17; 316 S 19; 316 S 31; 316 S 33
14	316L	1.4404 X2 CrNiMo 17 13 2; (X2 CrNiMo 17-12-2); GX 2 CrNiMoN 18-10	316 S 11; 316 S 13; 316 S 14; 316 S 31; 316 S 42; S.537; 316 C 12; T.75; S. 161
14	316LN	1.4406 X2 CrNiMoN 17 12 2; (X2CrNiMoN 18-10)	316 S 61; 316 S 63
14	CF-8M	1.4408 GX 5 CrNiMoN 7 12 2; G-X 6 CrNiMo 18 10	316 C 16 (LT 196); ANC 4 B
14		1.4410 G-X10CrNiMo18 9	
14	316 Ln	1.4429 X2 CrNiMo 17 -13-3	316 S 62
14	316L	1.4435 X2 CrNiMo18 14 3	316 S 11; 316 S 13; 316 S 14; 316 S 31; LW 22; LWCF 22
14	316	1.4436 X 5 CrNiMo 17 13 3; (X4CRNIMO 17-13-3)	316 S 19; 316 S 31; 316 S 33; LW 23; LWCF 23
14	317L	1.4438 X2 CrNiMo 18 16 4; (X2CrNiMo 18-15-4)	317 S 12
14	(s31726)	1.4439 X2 CrNiMoN 17 13 5	
14		1.444 X 2 CrNiMo 18 13	
14	317	1.4449 X5 CrNiMo 17 13 3	317 S 16
14	329	1.4460 X 4 CrNiMo 27 5 2; (X3CrNiMo27-5-2)	
14	329	1.4460 X8CrNiMo27 5	

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
Z6CN18.09	2332	X5CrNi18 10	F.3551	SUS304	
Z 2 CN 23-04 AZ	2327				
Z 8 CMN 18- 08-05					
Z 3 CND 17 -11-01; Z 6 CND 17-11; Z 6 CND 17-11-02; Z 7 CND 17-11-02; Z 7 CND 17-12-02	2347	X 5 CrNiMo 17 12	F.3534-X 5 CrNiMo 17 12 2	SUS 316	
Z 2 CND 17-12; Z 2 CND 18-13; Z 3 CND 17-11-02; Z 3 CND 17-12-02 FF; Z 3 CND 18-12-03; Z 3 CND 19.10 M	2348	X 2 CrNiMo 17 12; G-X 2 CrNiMo 19 11	F.3533 - X 2 CrNiMo 17 13 2; F.3537 - X 2 CrNiMo 17 13 3	SUS 316 L	
Z2 CND 17-12 AZ		X 2 CrNiMoN 17 12	F.3542-X 2 CrNiMoN 17 12 2	SUS316LN	07 Ch 18N
	2343		F.8414-AM-X 7 CrNiMo 20 10	SCS 14	10G2S2MSL
Z5CND20.12M	2328				
Z 2 CND 17-13 Az	2375	X 2 CrNiMoN 17 13	F.3543-X 2 CrNiMoN 17 13 3	SUS 316 LN	
Z 3 CND 17-12-03; Z 3 CND 18-14-03	2375	X2CrNiMoN 17 13	F.3533-X 2 CrNiMo 17 13 2	SUS 316 L	O3 Ch 17N14M3
Z 6 CND 18-12-03; Z 7 CND 18-12-03	2343	X 5 CrNiMo 117 13; X 8 cRnImO 17 13	F.3543-X 5 CrNiMo 17 12 2 F.3538-X 5 CrNiMo 17 13 3	SUS 316	
Z 2 CND 19-15-04; z 3 cnd 19-15-04	2367	X2CrNiMo18 16	f.3539-x 2 cRnImO 18 16 4	SUS317L	
Z 3 CND 18-14-06 AZ					
		X 5 CrNiMo 18 15		SUS 317	
(Z 3 CND 25-07 Az); Z 5 CND 27-05 Az	2324		F.3309-X 8 CrNiMo 17 12 2; F.3552-X 8 CrNiMo 18 16 4	SUS 329 J 1	
	2324				

ISCAR MATERIAL GROUPS

According to VDI 3323 Standard

Mtl. No.	 USA AISI/SAE	 GERMANY Werkstoff	 Great Britain EN
14		1.4462 X2CrNiMoN22 5 3	318 S 13
14		1.4500 G-X7NiCrMoCuNb25 20	
14	17-7PH	1.4504	316S111
14	443 444	1.4521 X2CrMoTi18-2	
14	UNS N 08904	1.4539 X1NiCrMoCuN25-20-5	
14	CN-7M	1.4539 (G-)X1 NiCrMoCu 25 20 5	
14	321	1.4541 Z 6 CrNiTi 18-10	321 S 31; 321 S 51 (1010; 1105); LW 24; LWCF 24
14	630	1.4542 X5 CrNiCuNb 17 4; (X5 CrNiChNb 16-4)	
14	15-5PH	1.4545 Z7 CNU15.05	
14	S31254	1.4547 X1 CrNiMoN 20 18 7	
14	347	1.4550 X6 CrNiNb 18 10	347 S 17 58F
14		1.4552 G-X7CrNiNb18 9	
14	17-7PH	1.4568	316S111
14	316tTi	1.4571 X6 CrNiMoTi 17 12 2	320 S 31
14	316 Ti	1.4571 x 6 CrNiMoTi 17 12 2	320 S 31 58J
14		1.4581 G-X 5 CrNiMoNb	318 C 17
14	318	1.4583 X 10CrNiMoNb 18 12	303 S 21
14		1.4585 G-X7CrNiMoCuNb18 18	
14		1.4821 X20CrNiSi25 4	
14		1.4823 G-X40CrNiSi27 4	
14	309	1.4828 X15CrNiSi20 12	309 S 24 58C
14	309S	1.4833 X6 CrNi 22 13	309 S 13
14	310 S	1.4845 X12 CrNi 25 21	310S24
14	321	1.4878 X6 CrNiTi 18 9	32 1 S 20 58B

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
Z 3 CND 22-05 Az; (Z 2 CND 24 -08 Az); (Z 3 CND 25-06-03 Az)	2377			SUS 329 J3L	
23NCDU25.20M					
		Z8CNA17-07	X2CrNiMo1712		
	2326		F.3123-X 2 CrMoTiNb 18 2	SUS 444	
Z 2 NCDU 25-20	2562				
Z1 NCDU 25-02 M	2564				
Z 6 CNT 18-10	2337	X 6 CrNiTi 18 11	F.3523 - X 6 CrNiTi 18 10	SUS 321	06Ch18N10T; 08Ch18N10T; 09Ch18N10T; 12Ch18N10T
Z 7 CNU 15-05; Z 7 CNU 17-04				SCS 24; SUS 630	
	2378				
Z 6 CNNb 18.10	2338	X6CrNiNb18 11	F.3552	SUS347	08Ch18N12B
Z4CNNb19.10M					
		Z8CNA17-07	X2CrNiMo1712		09Ch17NJu1
Z 6 CNDT 17-12002	2350				10Ch17N13M2T
Z 6 NDT 17.12	2350	X6CrNiMoTi17 12	F.3535		10Ch17N13M2T
Z 4 CNDNb 18.12 M					
Z15CNS20.12		x15cRnls12 12			
		X6CrNiMoTi17 12			
Z20CNS25.04					
Z15CNS20.12			F.8414	SCS17	20Ch20N14S2
Z 15 CN 24-13					
Z 12 CN 25-20	2361	X6CrNi25 20	F.331	SUH310	20Ch23N18
Z 6 CNT 18-12 (B)	2337	X6CrNiTi18 11	F.3553	SUS321	

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Mtl. No.	 USA AISI/SAE	 GERMANY Werkstoff	 Great Britain BS	EN
		DIN		
14	Ss30415	1.4891	X5 CrNiNb 18 10	
14	S30815	1.4893	X8 CrNiNb 11	
14	304H	1.4948	X6 CrNi 18 11	304 S 51
14	660	1.4980	X5 NiCrTi 25 15	
14			X5 NiCrN 35 25	
14	S31753		X2 CrNiMoN 18 13 4	
14			X2 CrNiMoN 25 22 7	
15	CLASS20	0.6010	GG10	
15	A48-20B	0.6010	GG-10	
15	NO 25 B	0.6015	GG 15	Grade 150
15	CLASS25	0.6015	GG15	GRADE150
15	A48 25 B	0.6015	GG 15	Grade 150
15	A48-30B	0.6020	GG-20	Grade 220
15	NO 30 B	0.6020	GG 20	Grade 220
15	A436 Type 2	0.6660	GGL-NiCr202	L-NiCuCr202
15	60-40-18	0.7040	GGG 40	SNG 420/12
15	No 20 B		GG 10	
16	CLASS30	0.6020	GG20	GRADE220
16	A48-40 B	0.6025	EN- GJL-250 (GG25)	Grade260
16	CLASS45	0.6030	GG30	GRADE300
16	A48-45 B	0.6030		Grade 300
16	A48-50	0.6035	GG-35	GRADE 350
16	A48-60 B	0.6040	GG40	GRADE400
16		1.4829	X 12 CrNi 22 12	
16				
16				
17		0.7033	GGG-35.3	350/22 L 40
17	60/40/18	0.7043	GGG-40.3	370/7
17	80-55-06	0.7050	EN- GJS-800-7 (GGG50)	SNG500/7
17	65-45-12	0.7050	GGG-50	SNG 500/7
17		0.7652	GGG-NiMn 13 7	S-NiMn 137
17	A43D2	0.7660	GGG-NiCr 20 2	Grade S6

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
	2372				
	2368				
Z 5 CN 18-09	2333				
Zz 8 nctv 25-15 b ff	2570				
Ft10D	110	G10			SCh10
FT 10 D	0110-00				SCh10
FT 15 D	0115-00	G 15	FG 15	FC150	SCh15
Ft15D	115	G 15	FG 15		SCh15
Ft 15 D	01 15-00	G14	FG15		SCh15
Ft 20 D	0120-00				SCh20
Ft 20 D	120	G 20		FC200	SCh20
L-NC 202	0523-00				
FCS 400-12	0717-02	GS 370-17	FGE 38-17	FCD400	VCh42-12
Ft 10 D	110			FC100	
Ft20D	120	G 20	FG 20		
Ft 25 D	125	G 25	FG 25	FC250	VCh60-2
Ft30D	130	G 30	FG 30	FC300	SCh20
Ft 30 D	01 30-00				SCh30
Ft35D	135	G 35	FG 35	FC350	SCh30
Ft 40 D	140				SCh40
					SCh25
FGS 370/17	0717-15				VCh42-12
FGS 370/17	0717-15				VCh50-2
FGS 500/7	0727-02	GGG 50		FCD500	VCh50-2
FGS 500-7	0727-02				
S-Mn 137	0772-00				
S-NC 202	0776-00				

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	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
17		GGG 40.3	SNG 370/17
18		0.7060 GGG60	SNG600/3
18	80/55/06	0.7060 GGG-60	600/3
18	100/70/03	0.7070 GGG-70	SNG700/2
18	A48 40 B		
19		0.8055 GTW55	
19	32510	0.8135 GTS-35-10	B 340/12
19	A47-32510	0.8135 GTS-35-10	B 340/2
19	A220-40010	0.8145 GTS-45-06	P 440/7
19		GTS-35	B 340/12
19			8 290/6
19	32510	GTS-35	B340/12
20		0.8035 GTM-35	W340/3
20		0.8040 GTW-40	W410/4
20		0.8045	
20		0.8065 GTMW-65	
20	A220-50005	0.8155 GTS-55-04	P 510/4
20	50005	0.8155 GTS-55-04	P510/4
20	70003	0.8165 GTS-65-02	P 570/3
20	90001	0.8170 GTS-70-02	P 690/2
20	A220-90001	0.8170 GTS-70-02	
20	1022; 1518	1.1133 20Mn5	120 M 19
20	400 10	GTS-45	P440/7
20	70003	GTS-65	P 570/3
21	Al99	3.0205	
21	1000	3.0255 Al99.5	L31; L34; L36
21		3.3315 AlMg1	
22		3.1325 AlCuMg 1	
22		3.1655 AlCuSiPb	
22		3.2315 AlMgSi1	
22	7050	3.4345 AlZnMgCuO,5	L 86
22		3.437 AlZnMgCu 1,5	
23		3.2381 G-AlSi 10 Mg	
23		3.2382 GD-AlSi10Mg	

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
FGS 370-17	0717-12			FC250	
FGS600-3	07 32-03	GGG 60	GGG 60		
FGS 600/3	0727-03			FCD600	
FGS 700-2	07 37-01	GGG 70	GGG 70	FCD700	
			GTW 55		
MN35-10	810		GTS 35		KCh35-10
Mn 35-10	0815-00				KCh35-10
Mn 450-6	0852-00	GMN 45		FCMW370	
	0810-00				
MN 32-8	814			AC4A	
MN 35-10	08 15			FCMW330	
MB35-7	852		GTM 35		
MB40-10		GMB40	GTM 40		
		GMB45	GTM 45		KCh55-4
			GTW 65		KCh55-4
Mn 550-4	0854-00				KCh60-3
MP 50-5	854	GMN 55		FCMP490	KCh70-2
Mn 650-3	0856-00	GMN 65		FCMP590	KCh70-2
Mn 700-2	0862-00	GMN 70		FCMP690	KCh70-2
Mn 700-2	0864-00				20G
20 M 5	2132	G 22 Mn 3; 20 Mn 7	F.1515-20 Mn 6	SMnC 420	
	08 52				
MP 60-3	858			FCMP540	AD0
A59050C					D1
					AD35
					AK9
AZ 4 GU/9051		811-04			
					AK12

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		DIN	EN
23	A360.2	3.2383	G-AlSi0Mg(Cu) LM9
23		3.2581	G-AlSi12
23		3.3561	G-AlMg 5
23	ZE 41	3.5101	G-MgZn4sE1Zr1 MAG 5
23	EZ 33	3.5103	MgSE3Zn27r1 MAG 6
23	AZ 81	3.5812	G-MgAl8Zn1 NMAG 1
23	AZ 91	3.5912	G-MgAl9Zn1 MAG 7
23	A356-72		2789; 1973
23	356,1		LM25
23	A413.2		G-AlSi12 LM 6
23	A413.1		G-AlSi 12 (Cu) LM 20
23	A413.0		GD-AlSi12
23	A380.1		GD-AlSi8Cu3 LM24
24		2.1871	G-AlCu 4 TiMg
24		3.1754	G-AlCu5Ni1,5
24		3.2163	G-AlSi9Cu3
24	4218 B	3.2371	G-AlSi 7 Mg
24	SC64D	3.2373	G-AlSi9MGWA
24		3.2373	G-AlSi 9 Mg
24	QE 22	3.5106	G-MgAg3SE2Zr1 mag 12
24	GD-AlSi12		G-ALMG5 LM5
26	C93200	2.1090	G-CuSn 7 5 pb
26	c 83600	2.1096	G-CuSn5ZnPb LG 2
26	C 83600	2.1098	G-CuSn 2 Znpb
26	C23000	2.1182	G-CuPb15Sn LB1
26	C 93800	2.1182	G-CuPb15Sn
27		2.0240	CuZn 15
27	C27200	2.0321	CuZn 37 cz 108
27	C27700	2.0321	CuZn 37 cz 108
27		2.0590	G-CuZn40Fe
27	C 86500	2.0592	G-CuZn 35 Al 1 U-Z 36 N 3
27	C 86200	2.0596	G-CuZn 34 Al 2 HTB 1
27	C 18200	2.1293	CuCrZr CC 102

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
	4253				
G-TR3Z2					
NF A32-201					
	4244			A5052	AK7
	4261				
	4260			ADC12	AK12
	4247			A6061	
	4250			A7075	
					VAL 8
					AK8
A-S7G	4251			C4BS	AK9
A-SU12	4252				
U-E 7 Z 5 pb 4					
U-pb 15 E 8					
Uu-PB 15e 8					
CuZn 36, CuZn 37		C 2700			L 63
CuZn 36, CuZn 37		C2720			L 63
HTB 1					
U-Z 36 N 3					LTs23AD; ZMts
U-Cr 0.8 Zr					

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	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
28		2.0060 E-Cu57	
28		2.0375 CuZn36Pb3	
28	C 63000	2.0966 CuAl 10 Ni 5 Fe 4	Ca 104
28	B-148-52	2.0975 G-CuAl 10 Ni	
28	c 90700	2.1050 G-CuSn 10	CT1
28	C 90800	2.1052 G-CuSn 12	pb 2
28	C 81500	2.1292 G-CuCrF 35	CC1-FF
28		2.4764 CoCr20W15Ni	
31	N 08800	1.4558 X 2 NiCrAlTi 32 20	NA 15
31	N 08031	1.4562 X 1 NiCrMoCu 32 28 7	
31	N 08028	1.4563 X 1 NiCrMoCuN 31 27 4	
31	N 08330	1.4864 X 12 NiCrSi 36 16	NA 17
31	330	1.4864 X12 NiCrSi 36 16	NA 17
31		1.4865 G-X40NiCrSi38 18	330 C 40
31		1.4958 X 5 NiCrAlTi 31 20	
31	AMS 5544	LW2.4668 NiCr19NbMo	
32		1.4977 X 40 CoCrNi 20 20	
33	Monel 400	2.4360 NiCu30Fe	NA 13
33	5390A	2.4603	
33	Hastelloy C-4	2.4610 NiMo16cR16Ti	
33	Nimonic 75	2.4630 NiCr20Ti	HR 5,203-4
33		2.4630 NiCr20Ti	HR5,203-4
33	Inconel 690	2.4642 NiC29Fe	
33	Inconel 625	2.4856 NiCr22Mo9Nb	NA 21
33	5666	2.4856 NiCr22Mo9Nb	
33	Incoloy 825	2.4858 NiCr21Mo	NA 16
34	Monel k-500	2.4375 NiCu30 Al	NA 18
34	4676	2.4375 NiCu30Al	3072-76
34		2.4631 NiCr20TiAl	Hr40; 601
34	Inconel 718	2.4668 NiCr19FeNbMo	
34	Inconel 751	2.4694 NiCr16Fe7TiAl	
34		2.4955 NiFe25Cr20NbTi	
34	5383	LM2.4668 NiCr19Fe19NbMo	HR8
34	5391	LW2 4670 S-NiCr13A16MoNb	3146-3

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
					LS60-2
U-A 10 N					BrAD; N10-4-4
UE 12 P					
Z1NCUDU31-27-03	2584				EK 77
Z 12 NCS 35.16					
Z 12 NCS 37.18				SUH330	
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NC20K14					
Z 42 CNKDWNb					
NU 30					
NC22FeD					
NC 20 T					
NC20T					
Nnc 30 Fe					
NC 22 FeDNb					
Inconel 625					
NC 21 Fe DU					KhN38VT
NU 30 AT					
NC20TA					KhN77TYuR
NC 19 Fe Nb					
NC19eNB					
NC12AD					

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Mtl. No.			
	USA AISI/SAE	GERMANY Werkstoff DIN	Great Britain BS EN
34	5660	LW2.4662	NiFe35Cr14MoTi
34	5537C	LW2.4964	CoCr20W15Ni
34	AMS 5772		CoCr22W14Ni
35	Inconel X-750	2.4669	NiCr15Fe7TiAl
35	Hastelloy B	2.4685	G-NiMo28
35	Hastelloy C	2.4810	G-NiMo30
35	AMS 5399	2.4973	NiCr19Co11MoTi
35		3.7115	TiAl5Sn2
36	R 50250	3.7025	Ti 1
36	R 52250	3.7225	Ti 1 pd
36	AMS 5397	LW2.4674	NiCo15Cr10MoAlTi
37		3.7124	TiCu2
37	R 54620	3.7145	TiAl6Sn2Zr4Mo2Si
37		3.7165	TiAl6V4
37		3.7185	TiAl4Mo4Sn2
37		3.7195	TiAl 3 V 2.5
37			TiAl4Mo4Sn4Si0.5
37	AMS R54520		TiAl5Sn2.5
37	AMS R56400		TiAl6V4
37	AMS R56401		TiAl6V4ELI
38	W 1	1.1545	C 105 W1
38	W210	1.1545	C105W1
38		1.2762	75 CrMoNiW 6 7
38	440C	1.4125	X105 CrMo 17
38		1.6746	32 nlcRmO 14 5
40	Ni- Hard 2	0.9620	G-X 260 NiCr 4 2
40	Ni- Hard 1	0.9625	G-X 330 Ni Cr 4 2
40	Ni-Hard 4	0.9630	G-X 300 CrNiSi 9 5 2
40		0.9640	G-X 300 CrMoNi 15 2 1
40	A 532 III A 25% Cr	0.9650	G-X 260 Cr 27
40	A 532 III A 25% Cr	0.9655	G-X 300 CrNMo 27 1
40	310	1.4841	X15 CrNiSi 25 20
41		0.9635	G-X 300 CrMo 15 3
41		0.9645	G-X 260 CrMoNi 20 2 1

 France AFNOR	 Sweden SS	 Italy UNI	 Spain UNE	 Japan JIS	 Russia GOST
ZSNC DT42					
KC20WN					
KC22WN					
NC 15 TNb A					
NC19KDT					VT5-1
					VT1-00
T-A 6 V					VT6
T-A5E					
T-A6V					
Y1 105	1880	C 100 KU	F-5118	SK 3	
Y120	2900	C120KU	CF.515	SUP4	U10A
Z 100 CD 17		X 105 CrMo 17			95Ch18
35 NCD 14					
	0512-00				
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	C#-PWLNR/L-X	10
	C#-PWLNR/L-X-JHP	11
	C#-PWLOR/L-IQ	16
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	CRDNN	80
	CRGCR/L	80
	CRGNR/L	80
	CR HFIR-M	557

C	CR THDN-IQ	315
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	C#-SDJCR-JHP	54
	C#-SDJCR/L	54
	C#-SDJCR/L-13-SL-JHP	53
	C#-SDNCN	58
	C#-SDNCN-13-SL-JHP	57
	CSDNN-CE/CEA	78
	CSDPN	66
	C#-SER/L	653
	C#-SIR/L	657
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ISCAR LTD.

Israel

Headquarters

Tel +972 (0)4 997 0311
Fax +972 (0)4 987 3741
www.iscar.com
headquarter@iscar.co.il

Argentina

ISCAR TOOLS ARGENTINA SA
Tel +54 114 912 2200
Fax +54 114 912 4411
admin@iscararg.com.ar
www.iscararg.com.ar

Australia

ISCAR AUSTRALIA PTY. LTD
Tel +61 (0) 2 8848 3500
Fax +61 (0) 2 8848 3511
iscaraus@iscar.com.au
www.iscar.com.au

Austria

ISCAR AUSTRIA GmbH
Tel +43 7252 71200-0
Fax +43 7252 71200-999
office@iscar.at
www.iscar.at

Belarus

JV ALC "TWINING-M"
Tel +375 17 506-32-38
+375 17 506-33-31/65
Tel/Fax +375 17 506-32-37
info@twing.by
www.twing.by, www.iscar.by

Belgium

n.v. ISCAR BENELUX s.a.
Tel +32 (0) 2 464 2020
Fax +32 (0) 2 522 5121
info@iscar.be
www.iscar.be

Bosnia

(Representative Office)
Tel +387 32 201 100
Fax +387 32 201 101
info@iscar.ba

Brazil

ISCAR DO BRASIL COML. LTDA.
Tel +55 19 3826-7100
Fax +55 19 3826-7171
DDG 0800 701 8877
iscar@iscarbrasil.com.br
www.iscar.com.br

Bulgaria

ISCAR BULGARIA
Tel/Fax +359 431 62557
aa_iscar@infotel.bg
www.iscar.bg

Canada

ISCAR TOOLS INC.
Tel +1 905 829 9000
Fax +1 905 829 9100
admin@iscar.ca
www.iscar.ca

Chile

SANDE SA
Tel +56 2 695 1700
Fax +56 2 697 0332
logistica@sande.cl

China

ISCAR CHINA
Tel +86 10 6561 0261/2/3
Fax +86 10 6561 0264
iscar@iscar.com.cn
www.iscar.com.cn

Colombia

CIMEX S.A.
Tel: +57 (1) 530-9222
cimex@cimexsa.com

DUROMETAL COLOMBIA

Tel: +57 1 674 03 20
Fax: +57 1 674 04 03
dirventas@duro-metal.com

Croatia

ISCAR ALATI d.o.o.
Tel +385 (0) 1 33 23 301
Fax +385 (0) 1 33 76 145
iscar@zg.t-com.hr
www.iscar.hr

Cyprus

WAMET (Demetriades) Ltd.
Tel +357 (0) 2 336660/5498
Fax +357 (0) 2 333386
wamet@cytanet.com.cy

Czech Republic

ISCAR CR s.r.o.
Tel +420 377 420 625
Fax +420 377 420 630
iscar@iscar.cz
www.iscar.cz

Denmark

KJ VAERKTOEJ AS/ISCAR DENMARK
Tel +45 70 11 22 44
Fax ++45 46 98 67 10
kj@kj.dk
www.iscar.dk

Estonia

KATOMSK AS
Tel +372 6775 671
Fax +372 6720 266
aleksei@katomsk.ee

Finland

ISCAR FINLAND OY
Tel +358-(0)9-439 1420
Fax +358-(0)9-466 328
info@iscar.fi
www.iscar.fi

France

ISCAR FRANCE SAS
Tel +33 (0)1 30 12 92 92
Fax +33 (0)1 30 12 95 82
info@iscar.fr
www.iscar.fr

Germany

ISCAR GERMANY GmbH
Tel +49 (0) 72 43 9908-0
Fax +49 (0) 72 43 9908-93
gmbh@iscar.de
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Greece

INTERNATIONAL TOOLS
K.-X. GEORGOPOULOS & SIA O.E
Tel +30 210 346 0133
Fax +30 210 342 5621
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VIMA

V. MAZLOUMIAN & SONS
Tel +30 2310 517-117 / 544-521
Fax +30 2310 529-107
vimaco@otenet.gr
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Hong Kong

MTC TOOLING SYSTEMS LTD
Tel +85-2-23054838
Fax +85-2-27988789
yoongkamsing@hotmail.com

Hungary

ISCAR HUNGARY KFT.
Tel +36 28 887 700
Fax +36 28 887 710
iscar@iscar.hu
www.iscar.hu

India

ISCAR India Ltd.
Tel +91 77009 63707
crao@iscar.in

Indonesia

CV MULTI TEKNIK
Tel. +62-21-29206242/44/45/59
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Ireland

HARDMETAL MACHINE TOOLS
Tel +353 (0) 1 286 2466
Fax +353 (0) 1 286 1514
phannigan@hardmetal.ie

Italy

ISCAR ITALIA srl
Tel +39 02 93 528 1
Fax +39 02 93 528 213
marketing@iscaritalia.it
www.iscaritalia.it

Japan

ISCAR JAPAN LTD.
Tel +81 6 6835 5471
Fax +81 6 6835 5472
iscar@iscar.co.jp
www.iscar.co.jp

Latvia

SIA EKL/LS
Tel +371 6 733 11 54
Fax +371 6 780 56 48
eklipstools@isr.lv

Lithuania

MECHA, UB
Tel +370 37 407 230
Fax +370 37 407 231
sigitas@mecha.lt

Macedonia

(Representative Office)
Tel +389 2 309 02 52
Fax +389 2 309 02 54
info@iscar.com.mk

Mexico

ISCAR DE MÉXICO
Tel +52 (442) 214 5505
Fax +52 (442) 214 5510
iscarmex@iscar.com.mx
www.iscar.com.mx

The Netherlands

ISCAR NEDERLAND B.V.
Tel +31 (0) 182 535523
Fax +31 (0) 182 572777
info@iscar.nl
www.iscar.nl

New Zealand

ISCAR PACIFIC LTD.
Tel +64 (0) 9 573 1280
Fax +64 (0) 9 573 0781
iscar@iscarpac.co.nz

Norway

SVEA MASKINER AS
Tel +47 32277750
Fax +47 32277751
per.martin.bakken@svea.no

Peru

HARTMETALL SAC
Tel: (511) 6612699
otorres@hartmetallgroup.com

Philippines

MESCO
Tel +63 2631 1775
Fax +63 2635 0276
mesco@mesco.com.ph

Poland

ISCAR POLAND Sp. z o.o.
Tel +48 32 735 7700
Fax +48 32 735 7701
iscar@iscar.pl
www.iscar.pl

Portugal

ISCAR PORTUGAL, SA
Tel +351 256 579950
Fax +351 256 586764
info@iscarportugal.pt
www.iscarportugal.pt

Romania

ISCAR TOOLS SRL
Tel +40 (0)312 286 614
Fax +40 (0)312 286 615
iscar-romania@iscar.com

Russia

Moscow

ISCAR RUSSIA LLC
Tel/fax +7 495 660 91 25/31
iscar@iscar.ru
www.iscar.ru

Chelyabinsk

ISCAR RUSSIA EAST LLC
Tel/fax +7 351 277 74 32
info@iscar-east.com
www.iscar-east.ru

Serbia

ISCAR TOOLS d.o.o.
Tel +381 11 314 90 38
Fax +381 11 314 91 47
info@iscartools.rs

Singapore

SINO TOOLING SYSTEM
Tel +65 6566 7668
Fax +65 6567 7336
sinotool@singnet.com.sg

Slovakia

ISCAR SR, s.r.o.
Tel +421 (0) 41 5074301
Fax +421 (0) 41 5074311
info@iscar.sk
www.iscar.sk

Slovenia

ISCAR SLOVENIJA d.o.o.
Tel +386 1 580 92 30
Fax +386 1 562 21 84
info@iscar.si
www.iscar.si

South Africa

ISCAR SOUTH AFRICA (PTY) LTD.
ShareCall 08600-47227
Tel +27 11 997 2700
Fax +27 11 388 9750
iscar@iscarsa.co.za
www.iscar.co.za

South Korea

ISCAR KOREA
Tel +82 53 760 7594
Fax +82 53 760 7500
leeyj@taegutech.co.kr
www.iscarkorea.co.kr

Spain

ISCAR IBERICA SA
Tel +34 93 594 6484
Fax +34 93 582 4458
iscar@iscarib.es
www.iscarib.es

Sweden

ISCAR SVERIGE AB
Tel +46 (0) 18 66 90 60
Fax +46 (0) 18 122 920
info@iscar.se
www.iscar.se

Switzerland

ISCAR HARTMETALL AG
Tel +41 (0) 52 728 0850
Fax +41 (0) 52 728 0855
office@iscar.ch
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Taiwan

ISCAR TAIWAN LTD.
Tel +886 (0)4-24731573
Fax +886 (0)4-24731530
iscar.taiwan@msa.hinet.net
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Thailand

ISCAR THAILAND LTD.
Tel +66 (2) 7136633-8
Fax +66 (2) 7136632
iscar@iscarthailand.com
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Turkey

ISCAR KESICI TAKIM
TIC. VE. IML. LTD
Tel +90 (262) 751 04 84 (Pbx)
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iscar@iscar.com.tr
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Ukraine

ISCAR UKRAINE LLC
Tel/fax +38 (044) 503-07-08
iscar_ua@iscar.com
www.iscar.com.ua

United Kingdom

ISCAR TOOLS LTD.
Tel +44 (0) 121 422 8585
Fax +44 (0) 121 423 2789
sales@iscar.co.uk
www.iscar.co.uk

United States

ISCAR METALS INC.
Tel +1 817 258 3200
Tech Tel 1-877-BY-ISCAR
Fax +1 817 258 3221
info@iscarmetals.com
www.iscarmetals.com

Venezuela

FERREINDUSTRIAL ISO-DIN C.A.
Tel +58 2 632 8211/633 4657
Fax +58 2 632 5277
iso-din@cantv.net

Vietnam

ISCAR VIETNAM
(Representative Office)
Tel +84 8 38 123 519/20
Fax +84 8 38 123 521
iscarvn@hcm.fpt.vn
www.iscarvn.com

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