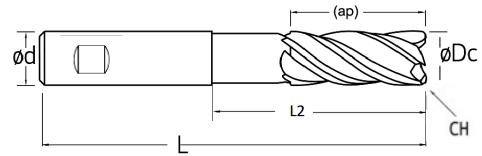


Z4

35°/38°

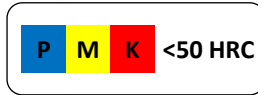


45°



Désignation	ØDc	Ap	L2	L	CH	Ødh6	Z	Preis CHF	Aktion
FR3538Z402005W	2	5	9	57	0.07	6	4	34.80	20.90
FR3538Z403008W	3	8	14	57	0.15	6	4	34.80	20.90
FR3538Z404011W	4	11	16	57	0.15	6	4	34.80	20.90
FR3538Z405013W	5	13	19	57	0.15	6	4	34.80	20.90
FR3538Z406013W	6	13	20	57	0.15	6	4	34.80	20.90
FR3538Z408019W	8	19	26	63	0.15	8	4	44.70	26.80
FR3538Z410022W	10	22	31	72	0.20	10	4	62.80	37.70
FR3538Z412026W	12	26	37	83	0.20	12	4	83.70	50.20
FR3538Z416032W	16	32	43	92	0.35	16	4	153.50	92.10
FR3538Z420038W	20	38	53	104	0.60	20	4	223.20	133.90

VHM-Fräser

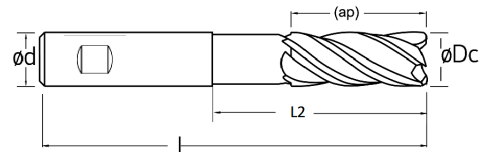


Z4

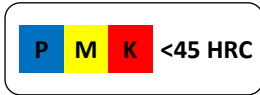
30°



scharfe Ecke



Désignation	ØDc	Ap	L2	L	Ødh6	Z	Preis CHF	Aktion
FR30Z402006W	2	6	9	57	6	4	37.20	22.30
FR30Z403012W	3	10	15	57	6	4	37.20	22.30
FR30Z404014W	4	14	17	57	6	4	37.20	22.30
FR30Z405016W	5	16	19	57	6	4	37.20	22.30
FR30Z406019W	6	19	21	57	6	4	37.20	22.30
FR30Z408020W	8	20	27	63	8	4	49.60	29.75
FR30Z410022W	10	22	32	72	10	4	68.20	40.90
FR30Z412025W	12	25	37	83	12	4	89.90	53.95
FR30Z416032W	16	32	44	92	16	4	161.20	96.75

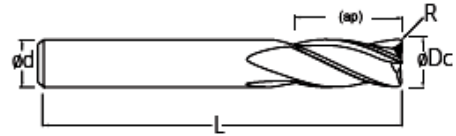


Z4

30°



Radius



Désignation	ϕDc	Ap	L	R	$\phi dh6$	Z	Preis CHF	Aktion
FR30RZ406019R050	6	19	50	0.50	6	4	38.00	22.80
FR30RZ406019R100	6	19	50	1.0	6	4	38.00	22.80
FR30RZ408020R050	8	20	63	0.50	8	4	44.00	26.40
FR30RZ408020R100	8	20	63	1.0	8	4	44.00	26.40
FR30RZ410022R100	10	22	75	1.0	10	4	62.00	37.20
FR30RZ410022R200	10	22	75	2.0	10	4	62.00	37.20
FR30RZ412025R100	12	25	75	1.0	12	4	76.00	45.60
FR30RZ412025R200	12	25	75	2.0	12	4	76.00	45.60
FR30RZ416032R100	16	32	89	1.0	16	4	142.00	85.20
FR30RZ416032R200	16	32	89	2.0	16	4	142.00	85.20

VHM-Fräser

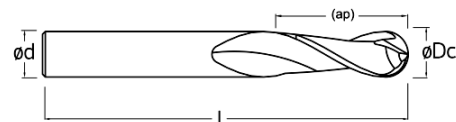


Z2

30°



Vollradius



Désignation	ϕDc	Ap	L	R	$\phi dh6$	Z	Preis CHF	Aktion
FR30RBZ202006	2	6	38	1.0	3	2	26.00	15.60
FR30RBZ203012	3	12	38	1.5	3	2	26.00	15.60
FR30RBZ204014	4	14	50	2.0	4	2	26.00	15.60
FR30RBZ205016	5	16	50	2.5	6	2	34.00	20.40
FR30RBZ206019	6	19	50	3.0	6	2	34.00	20.40
FR30RBZ208020	8	20	63	4.0	8	2	44.00	26.40
FR30RBZ210022	10	22	75	5.0	10	2	62.00	37.20
FR30RBZ212025	12	25	75	6.0	12	2	74.00	44.40



M S <50 HRC

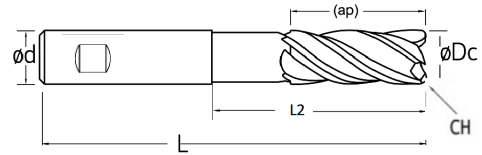


Z4



40°

45°



Désignation	ØDc	Ap	L2	L	CH	Ødh6	Z	Preis CHF	Aktion
FR40Z403008W	3	8	15	57	0.15	6	4	36.60	21.95
FR40Z404011W	4	11	17	57	0.15	6	4	36.60	21.95
FR40Z405013W	5	13	19	57	0.15	6	4	36.60	21.95
FR40Z406013W	6	13	21	57	0.15	6	4	36.60	21.95
FR40Z408019W	8	19	27	63	0.15	8	4	46.80	28.10
FR40Z410022W	10	22	32	72	0.20	10	4	66.00	39.60
FR40Z412026W	12	26	38	83	0.20	12	4	87.60	52.55
FR40Z414026W	14	26	38	83	0.25	14	4	124.20	74.55
FR40Z416032W	16	32	44	92	0.35	16	4	160.60	96.35
FR40Z418032W	18	34	44	92	0.45	18	4	203.00	121.80
FR40Z420032W	20	38	54	104	0.60	20	4	235.00	141.00

VHM-Fräser



N

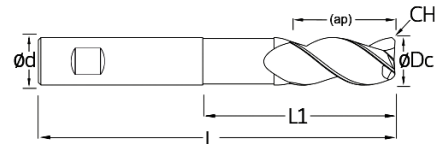


Z3



38°

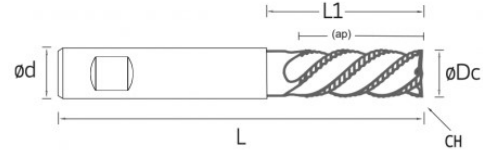
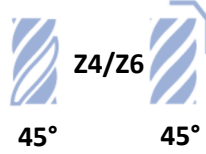
45°



Désignation	ØDc	Ap	L2	L	CH	Ødh6	Z	Preis CHF	Aktion
FR38Z303007W	3	7	15	57	0.15	6	3	36.60	21.95
FR38Z304008W	4	8	17	57	0.15	6	3	36.60	21.95
FR38Z305010W	5	10	19	57	0.15	6	3	36.60	21.95
FR38Z306010W	6	10	21	57	0.15	6	3	36.60	21.95
FR38Z308016W	8	16	27	63	0.15	8	3	49.90	29.95
FR38Z310019W	10	19	32	72	0.20	10	3	72.90	43.75
FR38Z312022W	12	22	38	83	0.20	12	3	99.40	59.65
FR38Z316026W	16	26	44	92	0.35	16	3	151.80	91.10
FR38Z320032W	20	32	54	104	0.60	20	3	226.00	135.60



P M K <50 HRC

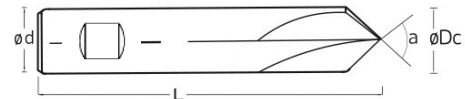
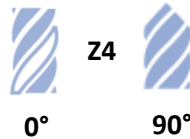


Désignation	ØDc	Ap	L1	L	CH	ødh6	Z	Preis CHF	Aktion
FR45EBZ406013W	6	13	21	57	0.15	6	4	42.50	25.50
FR45EBZ408019W	8	19	27	63	0.15	8	4	54.10	32.45
FR45EBZ410022W	10	22	32	72	0.20	10	4	76.10	45.65
FR45EBZ412026W	12	26	38	83	0.20	12	4	100.80	60.50
FR45EBZ516032W	16	32	44	92	0.35	16	5	185.20	111.15
FR45EBZ620038W	20	38	54	104	0.60	20	6	268.60	161.20

VHM-Fräser

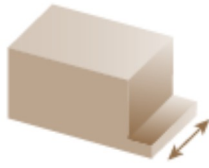


P M K <50 HRC



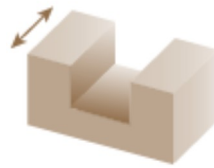
Désignation	ØDc	ødh6	A	L	Z	Preis CHF	Aktion
FR90CH40302*	3	3	90	38	4	26.50	15.90
FR90CH40402*	4	4	90	50	4	26.50	15.90
FR90CH40603W	6	6	90	57	4	35.20	21.15
FR90CH40804W	8	8	90	63	4	46.70	28.05
FR90CH41005W	10	10	90	72	4	60.00	36.00
FR90CH41206W	12	12	90	83	4	84.70	50.85
FR90CH41608W	16	16	90	92	4	147.50	88.50
FR90CH42010W	20	20	90	104	4	217.20	130.35

* sans weldon



$$Ae = 0.125 - 0.5 \times \varnothing$$

$$Ap = 1.0 \times \varnothing$$



$$Ae = 1.0 \times \varnothing$$

$$Ap = 1.0 \times \varnothing$$



$$Ae = 0.125 - 0.25 \times \varnothing$$

$$Ap = 1.0 \times \varnothing$$

ISO	Werstückstoff	Vc (m/min)	Fz Ø2	Fz Ø3	Fz Ø4	Fz Ø5	Fz Ø6	Fz Ø8	Fz Ø10	Fz Ø12	Fz Ø16	Fz Ø20
P	Stahl < 600 N/mm ²	250-325										
	Stahl < 800 N/mm ²	210-300	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
	Stahl < 1000 N/mm ²	175-250	0.007	0.010	0.010	0.010	0.016	0.020	0.024	0.030	0.032	0.036
	Stahl < 1400 N/mm ²	125-210	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
	Aciers < 1600 N/mm ²	80-150	0.035	0.040	0.045	0.050	0.060	0.085	0.090	0.100	0.120	0.160
M	Rostfreier Stahl ferritisch	120-175	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
	Rostfreier Stahl austenitisch	80-110	0.007	0.010	0.010	0.010	0.016	0.020	0.024	0.030	0.032	0.036
K	Guss GG	210-250	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
	Guss GGG	140-175	0.035	0.040	0.045	0.050	0.060	0.085	0.090	0.100	0.120	0.160
N	Aluminium Si <2%	400-600	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
	Aluminium Si -10%	200-250	0.007	0.010	0.010	0.010	0.016	0.020	0.024	0.030	0.032	0.036
	Kupfer-und Kupferlegierung	400-600	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
S	Superlegierungen	25-60	0.035	0.040	0.045	0.050	0.060	0.085	0.090	0.100	0.120	0.160
			0.007	0.010	0.010	0.010	0.016	0.020	0.024	0.030	0.032	0.036
H	Gehärlete Stähle 46-54 HRC	80-130	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
	Gehärlete Stähle 55-62 HRC	70-100	0.007	0.010	0.010	0.010	0.016	0.020	0.024	0.030	0.032	0.036
			0.035	0.040	0.045	0.050	0.060	0.085	0.090	0.100	0.120	0.160