

Victory™ Shoulder Mill 11™
ADVANCES 2015

WIDIA 

WIDIA™ Victory™ Shoulder Mill 11™ • VSM11

Victory™ Shoulder Mill 11™ is a high-performance, versatile, robust, 90° square shoulder milling platform. VSM11 is designed for versatility, low horsepower consumption, and easy cutting action. Cutters can be used for profiling, face milling, slotting, ramping, helical interpolation, circular interpolation, and other milling applications. Inserts are specially designed with innovative geometries and features like variable rake angles, negative T-land, small hone, and the latest Victory grades enhancing tool performance and versatility.

Take advantage of the high-performance, advanced carbide substrates, coatings, and surface treatment technologies of the available 6 Victory grades, 5 geometries, and broad range of cutter body product portfolio. This platform works with multiple material types and applications.

VSM11

Features

- Insert geometries and grades for most workpiece materials.
- Insert corner radius from 0,4–3,1mm (.016–.122").
- Axial depth of cut up to 11mm (.433").

Benefits

- Achieve true 90° wall finish.
- Easy cutting action.
- Latest WIDIA Victory milling grades for several workpiece materials.
- Soft cutting action, reduced cycle times, and low horsepower consumption.

Multiple corner nose radii available.



Optimised cutting edge and positive rake face for reduced cutting forces and softer cutting action.

Innovative cutting geometry provides superior wall and surface finish.

Screw-on, end mill, and shell mill cutters with effective internal coolant supply.

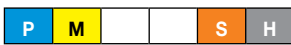
State-of-the-art step down capability.

Up to 11mm depth-of-cut capability.



Geometry Offering Chart

XDCT-ML



Light to medium machining.
First choice for stainless steel and titanium.
Periphery ground.

XDCT-ALP



Roughing and finishing of aluminium alloys.
High precision.
Periphery ground.

XDCW-PCD



Roughing and finishing of aluminium alloys.
Abrasive non-ferrous materials.
High precision.
Periphery ground.

XDPT-MH



First choice for heavy-duty machining.
Steel and cast iron materials.
Precision pressed to size.

XDPT-MM

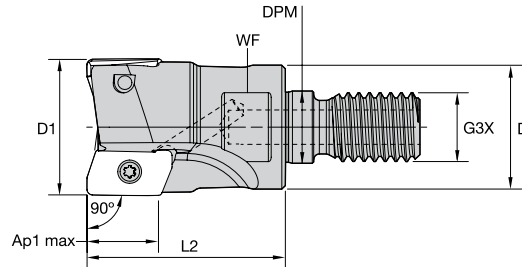
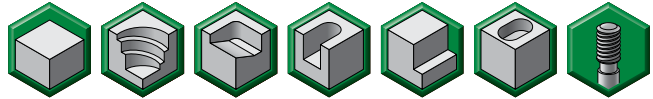


Medium to heavy machining.
First choice for general purpose.
Precision pressed to size.

To learn more about the **WIDIA™ VSM11**, use your smartphone or tablet to scan the QR code here.



- True 90° capability.
- Increased ramping capability.
- Superior wall and surface finish.
- Engineered to run up to 11mm depth of cut.
- Effective internal coolant feature, precisely reaching the cutting edge.



■ **Screw-On End Mills**

order number	catalogue number	D1	D	DPM	G3X	L2	WF	Ap1 max	Z	max ramp angle	max RPM	coolant supply	kg
5417011	VSM11D016Z02M08XD11	16	13	8,5	M8	25	10	11,5	2	10.0°	41400	Yes	0,02
5417013	VSM11D020Z03M10XD11	20	18	10,5	M10	28	15	11,6	3	7.8°	35100	Yes	0,05
5417015	VSM11D025Z04M12XD11	25	21	12,5	M12	32	17	11,5	4	5.3°	30200	Yes	0,08
5417017	VSM11D032Z04M16XD11	32	29	17,0	M16	40	24	11,4	4	3.6°	25800	Yes	0,18
5417019	VSM11D040Z06M16XD11	40	29	17,0	M16	40	24	11,4	6	2.6°	22600	Yes	0,24

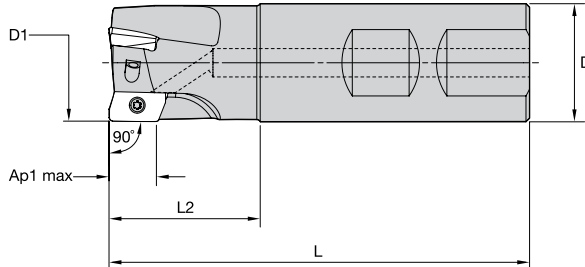
■ **Spare Parts**



D1	insert screw	Nm	wrench
16,0	192.432	1,0	170.028
20,0	192.432	1,0	170.028
25,0	192.432	1,0	170.028
32,0	192.432	1,0	170.028
40,0	192.432	1,0	170.028

NOTE: Standard milling cutters will accept insert nose radii up to 1,6mm without modification. Refer to the tool body modification instruction.

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Weldon End Mills

order number	catalogue number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	coolant supply	kg
5416454	VSM11D012Z01B16XD11	12	16	70	21	11,7	1	3.7°	53100	Yes	0,08
5416455	VSM11D016Z02B16XD11	16	16	70	21	11,5	2	10.0°	41400	Yes	0,09
5416457	VSM11D020Z02B20XD11	20	20	81	30	11,6	2	7.8°	35100	Yes	0,15
5416458	VSM11D020Z03B20XD11	20	20	81	30	11,6	3	7.8°	35100	Yes	0,16
5416459	VSM11D025Z03B25XD11	25	25	88	31	11,5	3	5.3°	30200	Yes	0,27
5416480	VSM11D025Z04B25XD11	25	25	88	31	11,5	4	5.3°	30200	Yes	0,28
5416481	VSM11D030Z04B25XD11	30	25	88	31	11,5	4	3.2°	26900	Yes	0,30
5416482	VSM11D032Z04B32XD11	32	32	100	39	11,4	4	3.6°	25800	Yes	0,51
5416483	VSM11D032Z05B32XD11	32	32	100	39	11,4	5	3.6°	25800	Yes	0,52

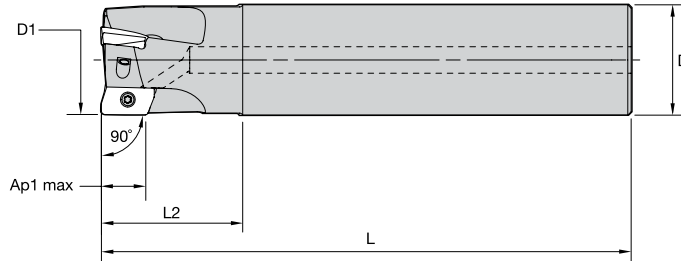
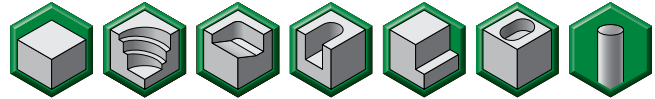
Spare Parts



D1	insert screw	Nm	wrench
12,0	192.432	1,0	170.028
16,0	192.432	1,0	170.028
20,0	192.432	1,0	170.028
25,0	192.432	1,0	170.028
30,0	192.432	1,0	170.028
32,0	192.432	1,0	170.028

NOTE: Standard milling cutters will accept insert nose radii up to 1,6mm without modification. Refer to the tool body modification instruction.

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- Effective internal coolant feature, precisely reaching the cutting edge.



■ Cylindrical End Mills

order number	catalogue number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	coolant supply	kg
5416632	VSM11D012Z01A16XD11L100	12	16	100	25	11,7	1	3.7°	53100	Yes	0,13
5416633	VSM11D016Z02A16XD11L100	16	16	100	31	11,5	2	10.0°	41400	Yes	0,12
5416634	VSM11D020Z02A20XD11L110	20	20	110	31	11,6	2	7.8°	35100	Yes	0,22
5416635	VSM11D020Z03A20XD11L110	20	20	110	31	11,6	3	7.8°	35100	Yes	0,23
5416636	VSM11D025Z03A25XD11L120	25	25	120	33	11,5	3	5.3°	30200	Yes	0,39
5416637	VSM11D025Z04A25XD11L120	25	25	120	33	11,5	4	5.3°	30200	Yes	0,40
5416638	VSM11D032Z03A32XD11L130	32	32	130	41	11,4	3	3.6°	25800	Yes	0,70
5416639	VSM11D032Z05A32XD11L130	32	32	130	41	11,4	5	3.6°	25800	Yes	0,71

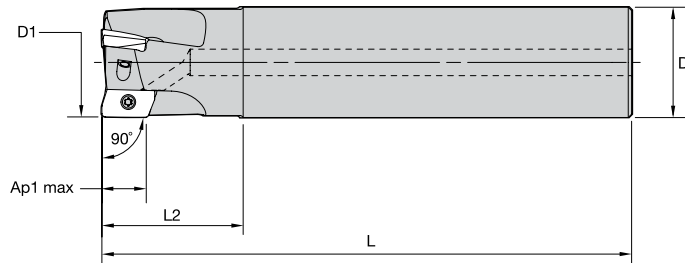
■ Spare Parts



D1	insert screw	Nm	wrench
12,0	192.432	1,0	170.028
16,0	192.432	1,0	170.028
20,0	192.432	1,0	170.028
25,0	192.432	1,0	170.028
32,0	192.432	1,0	170.028

NOTE: Standard milling cutters will accept insert nose radii up to 1,6mm without modification. Refer to the tool body modification instruction.

- True 90° capability.
- Increased ramping capability.
- Superior wall and surface finish.
- Engineered to run up to 11mm depth of cut.
- Effective internal coolant feature, precisely reaching the cutting edge.



■ Cylindrical End Mills • Long Shank

order number	catalogue number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	coolant supply	kg
5416700	VSM11D016Z02A16XD11L170	16	16	170	25	11,5	2	10.0°	41400	Yes	0,23
5416701	VSM11D018Z02A16XD11L170	18	16	170	25	11,6	2	9.7°	37900	Yes	0,23
5416702	VSM11D020Z02A20XD11L170	20	20	170	41	11,6	2	7.8°	35100	Yes	0,35
5416703	VSM11D020Z03A20XD11L170	20	20	170	41	11,6	3	7.8°	35100	Yes	0,36
5416704	VSM11D022Z03A20XD11L170	22	20	170	30	11,5	3	6.6°	32900	Yes	0,37
5416705	VSM11D025Z03A25XD11L210	25	25	210	50	11,5	3	5.3°	30200	Yes	0,70
5416706	VSM11D025Z04A25XD11L210	25	25	210	50	11,5	4	5.3°	30200	Yes	0,72
5416707	VSM11D032Z03A32XD11L250	32	32	250	65	11,4	3	3.6°	25800	Yes	1,39

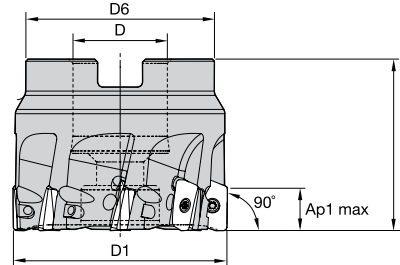
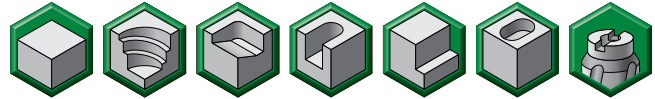
■ Spare Parts



D1	insert screw	Nm	wrench
16,0	192.432	1,0	170.028
18,0	192.432	1,0	170.028
20,0	192.432	1,0	170.028
22,0	192.432	1,0	170.028
25,0	192.432	1,0	170.028
32,0	192.432	1,0	170.028

NOTE: Standard milling cutters will accept insert nose radii up to 1,6mm without modification. Refer to the tool body modification instruction.

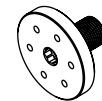
- True 90° capability.
- Increased ramping capability.
- Superior wall and surface finish.
- Engineered to run up to 11mm depth of cut.
- Effective internal coolant feature, precisely reaching the cutting edge.



■ Shell Mills

order number	catalogue number	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	coolant supply	kg
5416316	VSM11D040Z04S016XD11	40	16	37	40	11,4	4	2.6°	22600	Yes	0,22
5416317	VSM11D040Z06S016XD11	40	16	37	40	11,4	6	2.6°	22600	Yes	0,22
5416318	VSM11D050Z05S022XD11	50	22	44	40	11,3	5	1.9°	19900	Yes	0,33
5416319	VSM11D050Z08S022XD11	50	22	44	40	11,3	8	1.9°	19900	Yes	0,33
5416340	VSM11D063Z06S022XD11	63	22	44	40	11,3	6	1.5°	17500	Yes	0,50
5416341	VSM11D063Z09S022XD11	63	22	44	40	11,3	9	1.5°	17500	Yes	0,52
5416342	VSM11D080Z08S027XD11	80	27	60	50	11,3	8	1.1°	15300	Yes	1,14
5416345	VSM11D100Z09S032XD11	100	32	80	50	11,3	9	0.9°	13600	Yes	1,79
5416347	VSM11D125Z011S040XD11	125	40	80	63	11,3	11	0.7°	12100	Yes	3,01

■ Spare Parts



D1	insert screw	Nm	wrench	socket-head cap screw	coolant lock screw assembly
40,0	192.432	1,0	170.028	MS1294	-
50,0	192.432	1,0	170.028	12146120500	-
63,0	192.432	1,0	170.028	12146120500	-
80,0	192.432	1,0	170.028	125.230	-
100,0	192.432	1,0	170.028	-	MS2195C
125,0	192.432	1,0	170.028	-	MS2187C

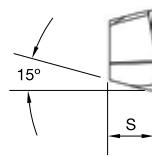
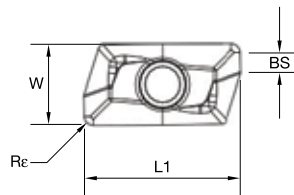
NOTE: Standard milling cutters will accept insert nose radii up to 1,6mm without modification. Refer to the tool body modification instruction.

■ Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..ML	WP40PM	.E..MM	WP40PM	.S..MH	WP40PM
P3-P4	.E..ML	WP35CM	.E..MM	WP35CM	.S..MH	WP40PM
P5-P6	.E..MM	WP25PM	.S..MH	WP35CM	.S..MH	WP40PM
M1-M2	.E..ML	WU35PM	.E..MM	WP40PM	.S..MH	WP40PM
M3	.E..ML	WU35PM	.E..MM	WP40PM	.S..MH	WP40PM
K1-K2	.E..ML	WK15CM	.E..MM	WK15CM	.S..MH	WK15CM
K3	.E..ML	WP25PM	.E..MM	WP25PM	.S..MH	WP25PM
N1-N2	.F..ALP	WN25PM	.F..ALP	WN25PM	.E..ML	WP25PM
N3	.F..ALP	WN25PM	.F..ALP	WN25PM	.E..ML	WP25PM
S1-S2	.E..ML	WP25PM	.E..MM	WP40PM	.S..MH	WP40PM
S3	.E..ML	WP25PM	.E..MM	WP40PM	.S..MH	WP40PM
S4	.E..MM	WU35PM	.S..MH	WP40PM	-	-
H1	.S..MH	WP35CM	.S..MH	WP35CM	-	-

Indexable Inserts

- ML is a light- to medium-machining geometry, and is the first choice for stainless steel and titanium materials.
- ALP is the first choice for roughing and finishing of aluminium alloys.



● first choice
○ alternate choice

P	●				○	●	●			
M	●				○	○				●
K		●			○	○				
N	●		●							
S					●			●	●	
H					●					

VICTORY

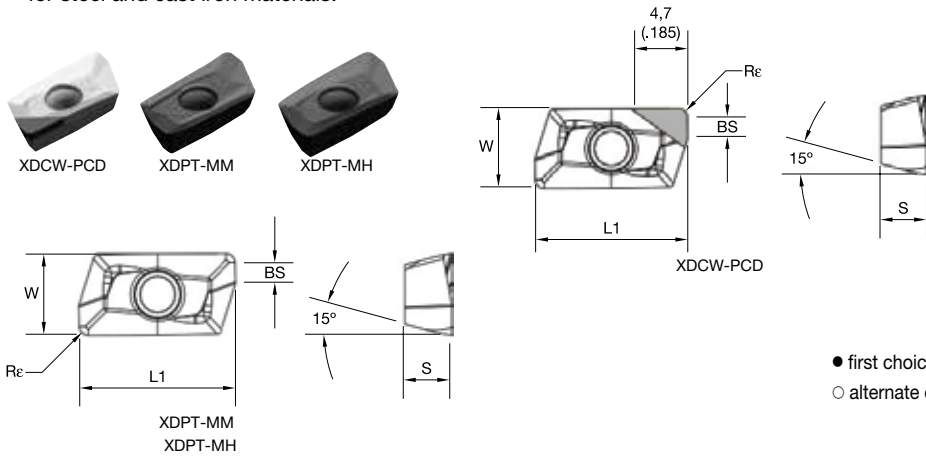
■ XDCT-ML

catalogue number	cutting edges	L1	BS	S	W	Rε	hm	WDN10U	WK15CM	WN25PM	WP25PM	WP35CM	WP40PM	WS30PM	WU35PM
XDCT110404PDERML	2	13,43	2,10	4,00	6,90	0,40	0,04	-	-	-	●	●	●	-	-
XDCT110408PDERML	2	13,44	1,70	4,00	6,90	0,79	0,04	-	●	-	●	●	●	●	●

■ XDCT-ALP

catalogue number	cutting edges	L1	BS	S	W	Rε	hm	WDN10U	WK15CM	WN25PM	WP25PM	WP35CM	WP40PM	WS30PM	WU35PM
XDCT110404PDFRALP	2	13,43	2,10	4,00	6,90	0,40	0,02	-	-	●	-	-	-	-	-
XDCT110408PDFRALP	2	13,44	1,70	4,00	6,90	0,79	0,02	-	●	-	-	-	-	-	-

- PCD is the first choice for roughing and finishing of abrasive non-ferrous materials and aluminium alloys.
- MM is a medium- to heavy-machining geometry, and is the first choice for general purpose and universal applications.
- MH heavy-duty machining geometry, and is the first choice for steel and cast iron materials.



● first choice
○ alternate choice

P	●				○	●	●	●	●
M	●				○	○	○	○	●
K	●				○	○			
N	●								
S								●	●
H									

VICTORY

■ XDCW-PCD

catalogue number	cutting edges	L1	BS	S	W	Rε	hm	WDN10U	WK15CM	WN25PM	WP25PM	WP35CM	WP40PM	WS30PM	WU35PM
XDCW110404PDFRPCD	1	13,43	2,10	4,00	6,90	0,40	0,02	●	-	-	-	-	-	-	-
XDCW110408PDFRPCD	1	13,44	1,70	4,00	6,90	0,79	0,02	●	-	-	-	-	-	-	-

■ XDPT-MM

catalogue number	cutting edges	L1	BS	S	W	Rε	hm	WDN10U	WK15CM	WN25PM	WP25PM	WP35CM	WP40PM	WS30PM	WU35PM
XDPT110404PDSRMM	2	13,43	2,06	4,00	6,90	0,40	0,06	-	●	-	●	●	●	-	-
XDPT110408PDSRMM	2	13,44	1,68	4,00	6,90	0,79	0,06	-	●	-	●	●	●	●	●
XDPT110412PDSRMM	2	13,44	1,29	4,00	6,90	1,20	0,06	-	●	-	●	●	●	-	●
XDPT110416PDSRMM	2	13,44	0,88	4,00	6,90	1,60	0,06	-	●	-	●	●	●	-	-
XDPT110431PDSRMM	2	12,91	-	4,00	6,89	3,10	0,06	-	●	-	●	●	●	●	-

■ XDPT-MH

catalogue number	cutting edges	L1	BS	S	W	Rε	hm	WDN10U	WK15CM	WN25PM	WP25PM	WP35CM	WP40PM	WS30PM	WU35PM
XDPT110408PDSRMH	2	13,44	1,68	4,00	6,90	0,79	0,13	-	●	-	-	●	●	-	-
XDPT110408PDSRMH	2	13,44	1,68	4,00	6,90	0,79	0,12	-	-	-	-	-	-	●	-
XDPT110412PDSRMH	2	13,44	1,29	4,00	6,90	1,20	0,13	-	●	-	-	●	-	-	-
XDPT110412PDSRMH	2	13,44	1,29	4,00	6,90	1,20	0,12	-	-	-	-	-	●	-	-
XDPT110416PDSRMH	2	13,44	0,90	4,00	6,90	1,59	0,13	-	●	-	-	●	-	-	-
XDPT110416PDSRMH	2	13,44	0,90	4,00	6,90	1,59	0,12	-	-	-	-	-	●	-	-

Recommended Starting Speeds [m/min]

Material Group		WP25PM			WU35PM			WP40PM			WK15CM		
P	1	330	285	270	260	230	215	300	260	250	-	-	-
	2	275	240	200	220	190	160	250	220	180	-	-	-
	3	255	215	175	200	170	140	230	200	160	-	-	-
	4	225	185	150	180	150	120	210	170	140	-	-	-
	5	185	170	150	150	135	120	170	160	140	-	-	-
	6	165	125	100	130	100	80	150	120	90	-	-	-
M	1	205	180	165	170	150	135	200	170	160	-	-	-
	2	185	160	130	155	130	110	180	150	130	-	-	-
	3	140	120	95	115	100	80	130	120	90	-	-	-
K	1	230	205	185	-	-	-	-	-	-	420	385	340
	2	180	160	150	-	-	-	-	-	-	335	295	275
	3	150	135	120	-	-	-	-	-	-	280	250	230
N	1-2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	40	35	25	35	30	25	40	40	30	-	-	-
	2	40	35	25	35	30	25	40	40	30	-	-	-
	3	50	40	25	45	35	25	50	40	30	-	-	-
	4	70	50	35	60	45	30	70	50	40	-	-	-
H	1	120	90	70	-	-	-	-	-	-	-	-	-

Material Group		WP20CM			WP35CM			WN25PM			WDN10U		
P	1	550	485	450	455	395	370	-	-	-	-	-	-
	2	340	310	275	280	255	230	-	-	-	-	-	-
	3	310	275	255	255	230	205	-	-	-	-	-	-
	4	230	215	190	190	175	160	-	-	-	-	-	-
	5	275	250	230	260	230	210	-	-	-	-	-	-
	6	190	170	145	160	135	-	-	-	-	-	-	-
M	1	225	200	175	205	185	155	-	-	-	-	-	-
	2	205	175	160	185	160	140	-	-	-	-	-	-
	3	160	145	125	145	130	115	-	-	-	-	-	-
K	1	360	325	295	295	265	240	-	-	-	-	-	-
	2	285	255	235	235	210	190	-	-	-	-	-	-
	3	240	215	200	195	175	160	-	-	-	-	-	-
N	1-2	-	-	-	-	-	-	1075	945	875	2755	2450	2255
	3	-	-	-	-	-	-	945	875	760	2285	1670	1355
S	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

Recommended Starting Feeds
Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
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Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.F.-PCD	0,08	0,17	0,23	0,06	0,13	0,18	0,06	0,11	0,15	0,05	0,10	0,14	0,05	0,10	0,14	.F.-PCD
.F.-ALP	0,08	0,10	0,16	0,06	0,07	0,12	0,06	0,06	0,10	0,05	0,06	0,10	0,05	0,06	0,10	.F.-ALP
.E.-ML	0,09	0,18	0,30	0,07	0,14	0,23	0,06	0,12	0,20	0,05	0,11	0,19	0,05	0,11	0,18	.E.-ML
.E.-MM	0,17	0,20	0,34	0,13	0,15	0,25	0,11	0,13	0,22	0,10	0,12	0,21	0,10	0,12	0,20	.E.-MM
.S.-MH	0,17	0,25	0,40	0,13	0,19	0,30	0,11	0,17	0,26	0,10	0,15	0,24	0,10	0,15	0,24	.S.-MH

NOTE: Use "Light Machining" values as starting feed rate.

Victory™ Shoulder Mill 11™ Starter Kits

Achieve True 90° Shoulder Milling with the new High performance WIDIA™ VSM11 Starter Kits.

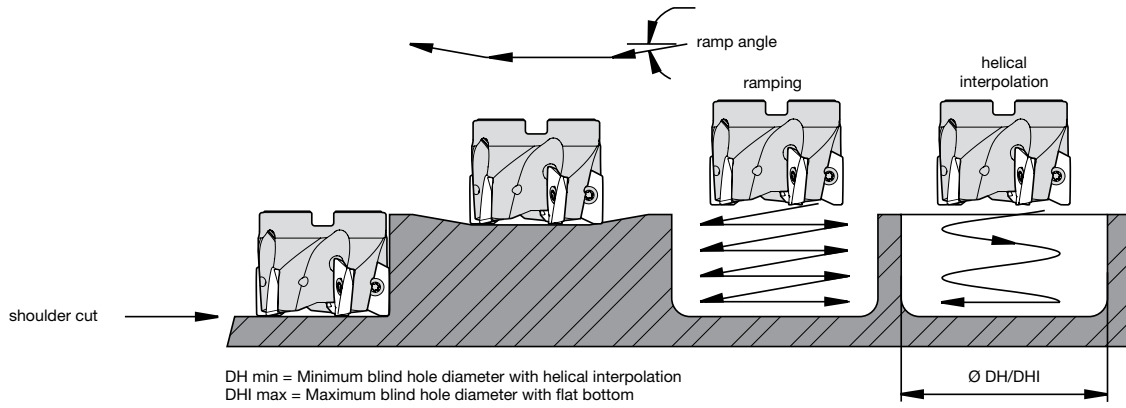
Order one of our starter kits and test the performance of our new VSM11 platform. The kits are set up to serve the majority of shoulder milling applications, delivered with a cutter body and the latest WIDIA Victory™ grades. Detailed order information can be found in the table below.



■ VSM11 Starter Kits • Metric

order number	catalogue number	contents							
		cutter	qty	inserts	qty	grade	cutter body type	diameter D1 (mm)	Z (pocket seats)
5527101	VSM11KITWD016Z02WP40PM	VSM11D016Z02B16XD11	1	XDPT110408PDSRMM	10	WP40PM	Weldon	16	2
5527102	VSM11KITWD020Z03WP40PM	VSM11D020Z03B20XD11	1	XDPT110408PDSRMM	10	WP40PM	Weldon	20	3
5527106	VSM11KITS050Z05WP40PM	VSM11D050Z05S022XD11	1	XDPT110408PDSRMM	10	WP40PM	Shell	50	5
5719051	VSM11KITS040Z06WP40PM	VSM11D040Z06S016XD11	1	XDPT110408PDSRMM	10	WP40PM	Shell	40	6
5719052	VSM11KITCD016Z02WP40PM	VSM11D016Z02A16XD11L100	1	XDPT110408PDSRMM	10	WP40PM	Cylindrical	16	2
5719053	VSM11KITCD020Z03WP40PM	VSM11D020Z03A20XD11L110	1	XDPT110408PDSRMM	10	WP40PM	Cylindrical	20	3
5719054	VSM11KITCD025Z04WP40PM	VSM11D025Z04A25XD11L120	1	XDPT110408PDSRMM	10	WP40PM	Cylindrical	25	4
5719055	VSM11KITCD032Z03WP40PM	VSM11D032Z03A32XD11L130	1	XDPT110408PDSRMM	10	WP40PM	Cylindrical	32	3
5886219	VSM11KITCD025Z03L120WP40PM	VSM11D025Z03A25XD11L120	1	XDPT110408PDSRMM	10	WP40PM	Cylindrical	25	3
5886220*	VSM11KITCD025Z03L210WP40PM	VSM11D025Z03A25XD11L210	1	XDPT110408PDSRMM	10	WP40PM	Cylindrical	25	3
5886251*	VSM11KITCD032Z03L250WP40PM	VSM11D032Z03A32XD11L250	1	XDPT110408PDSRMM	10	WP40PM	Cylindrical	32	3

*Starter Kit to be delivered in regular WIDIA™ corrugated box.



DH min = Minimum blind hole diameter with helical interpolation
 DHI max = Maximum blind hole diameter with flat bottom

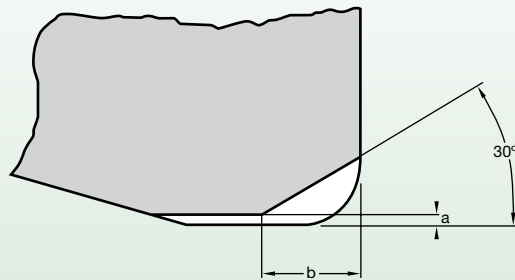
Application Examples

order number	catalogue number	D1	D	DPM	L2	Ap1 max	Z	max RPM	max ramp angle	coolant supply	kg	DHI max*	DH min
5417011	VSM11D016Z02M08XD11	16,00	13,00	8,50	25,00	11,53	2	41400	10.00°	Yes	0,02	32,00	19,00
5417013	VSM11D020Z03M10XD11	20,00	18,00	10,50	28,00	11,55	3	35100	7.80°	Yes	0,05	40,00	27,00
5417015	VSM11D025Z04M12XD11	25,00	21,00	12,50	32,00	11,52	4	30200	5.30°	Yes	0,08	50,00	37,00
5417017	VSM11D032Z04M16XD11	32,00	29,00	17,00	40,00	11,44	4	25800	3.60°	Yes	0,18	64,00	51,00
5417019	VSM11D040Z06M16XD11	40,00	29,00	17,00	40,00	11,38	6	22600	2.60°	Yes	0,24	80,00	67,00

order number	catalogue number	D1	D	L	L2	Ap1 max	Z	max RPM	max ramp angle	coolant supply	kg	DHI max*	DH min
5416454	VSM11D012Z01B16XD11	12,00	16,00	70,00	21,00	11,71	1	53100	3.70°	Yes	0,08	24,00	11,00
5416455	VSM11D016Z02B16XD11	16,00	16,00	70,00	21,00	11,53	2	41400	10.00°	Yes	0,09	32,00	19,00
5416457	VSM11D020Z02B20XD11	20,00	20,00	81,00	30,00	11,55	2	35100	7.80°	Yes	0,15	40,00	27,00
5416458	VSM11D020Z03B20XD11	20,00	20,00	81,00	30,00	11,55	3	35100	7.80°	Yes	0,16	40,00	27,00
5416459	VSM11D025Z03B25XD11	25,00	25,00	88,00	31,00	11,52	3	30200	5.30°	Yes	0,27	50,00	37,00
5416480	VSM11D025Z04B25XD11	25,00	25,00	88,00	31,00	11,52	4	30200	5.30°	Yes	0,28	50,00	37,00
5416481	VSM11D030Z04B25XD11	30,00	25,00	88,00	31,00	11,46	4	26900	3.20°	Yes	0,30	60,00	47,00
5416482	VSM11D032Z04B32XD11	32,00	32,00	100,00	39,00	11,44	4	25800	3.60°	Yes	0,51	64,00	51,00
5416483	VSM11D032Z05B32XD11	32,00	32,00	100,00	39,00	11,44	5	25800	3.60°	Yes	0,52	64,00	51,00
5416632	VSM11D012Z01A16XD11L100	12,00	16,00	100,00	25,00	11,71	1	53100	4.00°	Yes	0,13	24,00	11,00
5416633	VSM11D016Z02A16XD11L100	16,00	16,00	100,00	31,00	11,53	2	41400	10.00°	Yes	0,12	32,00	19,00
5416634	VSM11D020Z02A20XD11L110	20,00	20,00	110,00	31,00	11,55	2	35100	8.00°	Yes	0,22	40,00	27,00
5416635	VSM11D020Z03A20XD11L110	20,00	20,00	110,00	31,00	11,55	3	35100	8.00°	Yes	0,23	40,00	27,00
5416637	VSM11D025Z04A25XD11L120	25,00	25,00	120,00	33,00	11,52	4	30200	5.00°	Yes	0,40	50,00	37,00
5416636	VSM11D025Z03A25XD11L120	25,00	25,00	120,00	33,00	11,52	3	30200	5.00°	Yes	0,39	50,00	37,00
5416638	VSM11D032Z03A32XD11L130	32,00	32,00	130,00	41,00	11,44	3	25800	4.00°	Yes	0,70	64,00	51,00
5416639	VSM11D032Z05A32XD11L130	32,00	32,00	130,00	41,00	11,44	5	25800	4.00°	Yes	0,71	64,00	51,00
5416700	VSM11D016Z02A16XD11L170	16,00	16,00	170,00	25,00	11,53	2	41400	10.00°	Yes	0,23	32,00	19,00
5416701	VSM11D018Z02A16XD11L170	18,00	16,00	170,00	25,00	11,57	2	37900	10.00°	Yes	0,23	36,00	23,00
5416703	VSM11D020Z03A20XD11L170	20,00	20,00	170,00	41,00	11,55	3	35100	8.00°	Yes	0,36	40,00	27,00
5416702	VSM11D020Z02A20XD11L170	20,00	20,00	170,00	41,00	11,55	2	35100	8.00°	Yes	0,35	40,00	27,00
5416704	VSM11D022Z03A20XD11L170	22,00	20,00	170,00	30,00	11,53	3	32900	7.00°	Yes	0,37	44,00	31,00
5416705	VSM11D025Z03A25XD11L210	25,00	25,00	210,00	50,00	11,52	3	30200	5.00°	Yes	0,70	50,00	37,00
5416706	VSM11D025Z04A25XD11L210	25,00	25,00	210,00	50,00	11,52	4	30200	5.00°	Yes	0,72	50,00	37,00
5416707	VSM11D032Z03A32XD11L250	32,00	32,00	250,00	65,00	11,44	3	25800	4.00°	Yes	1,39	64,00	51,00
5416316	VSM11D040Z04S016XD11	40,00	16,00	37,00	40,00	11,38	4	22600	3.00°	Yes	0,22	80,00	67,00
5416317	VSM11D040Z06S016XD11	40,00	16,00	37,00	40,00	11,38	6	22600	3.00°	Yes	0,22	80,00	67,00
5416318	VSM11D050Z05S022XD11	50,00	22,00	44,00	40,00	11,32	5	19900	2.00°	Yes	0,33	100,00	87,00
5416319	VSM11D050Z08S022XD11	50,00	22,00	44,00	40,00	11,32	8	19900	2.00°	Yes	0,33	100,00	87,00
5416340	VSM11D063Z06S022XD11	63,00	22,00	44,00	40,00	11,32	6	17500	2.00°	Yes	0,50	126,00	113,00
5416341	VSM11D063Z09S022XD11	63,00	22,00	44,00	40,00	11,32	9	17500	2.00°	Yes	0,52	126,00	113,00
5416342	VSM11D080Z08S027XD11	80,00	27,00	60,00	50,00	11,32	8	15300	1.00°	Yes	1,14	160,00	147,00
5416345	VSM11D100Z09S032XD11	100,00	32,00	80,00	50,00	11,32	9	13600	0.90°	Yes	1,79	200,00	187,00
5416347	VSM11D125Z011S040XD11	125,00	40,00	80,00	63,00	11,32	11	12100	0.70°	Yes	3,01	250,00	237,00

*NOTE: For DHI max flat bottom hole diameter, subtract the insert corner radius from the max hole diameter.

Modification Instructions for Use of Larger Radii Inserts (Shoulder Mills and Helical Mills)



insert corner radius	material to remove	
	a	b
3,1mm	0,2mm	1,8mm



Victory™ Shoulder Mill 11™

ADVANCES 2015

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