



* Weldon Type: additional operations



PLUS 18190 Milling Tool | Ferramenta | Herramienta

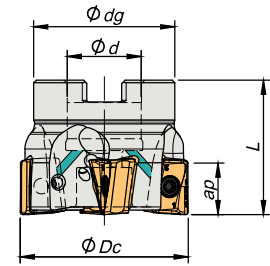
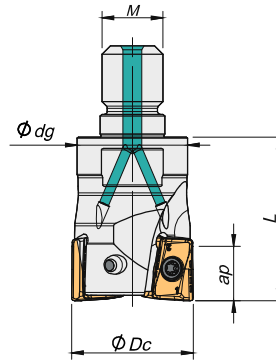
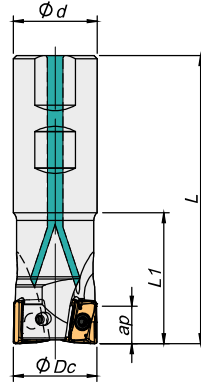
Weldon Shank

Threaded Coupling

Arbor Mounting



$K_r = 90^\circ$ | $\gamma_p = -4^\circ$



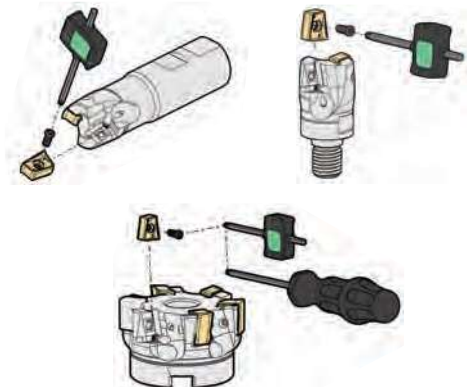
	Order Code	Reference		Dimensions (mm)						Specifications		Insert	Stock
				ØDc	Ød/M	Ødg	L	L1		Arbor Type	ap (mm)		
Welded	181051600	032W18190-02-04-032110	2	32	32	-	110	50	0,655	-	15,0	ANHX 1607...	
	181067500	040W18190-03-04-032115	3	40	32	-	115	40	0,656	-	15,0	ANHX 1607...	
Threaded	181082800	032R18190-02-04-M16043	2	32	M16	29	43	-	0,200	-	15,0	ANHX 1607...	
	181082900	040R18190-03-04-M16043	3	40	M16	29	43	-	0,240	-	15,0	ANHX 1607...	
Arbor Mounting	181067600	050A18190-03-04-022040	3	50	22	42	40	-	0,281	A	15,0	ANHX 1607...	
	181067700	050A18190-04-04-022040	4	50	22	42	40	-	0,267	A	15,0	ANHX 1607...	
	181067800	063A18190-04-04-022040	4	63	22	52	40	-	0,510	A	15,0	ANHX 1607...	
	181067900	063A18190-06-04-022040	6	63	22	52	40	-	0,479	A	15,0	ANHX 1607...	
	181068000	080A18190-05-04-027050	5	80	27	60	50	-	0,881	B	15,0	ANHX 1607...	
	181051800	080A18190-07-04-027050	7	80	27	60	50	-	1,356	B	15,0	ANHX 1607...	
	181068100	100A18190-05-04-032050	5	100	32	80	50	-	1,600	B	15,0	ANHX 1607...	
	181068200	100A18190-08-04-032050	8	100	32	80	50	-	1,588	B	15,0	ANHX 1607...	
	181068300	125A18190-07-04-040063	7	125	40	90	63	-	2,930	B	15,0	ANHX 1607...	
	181068400	125A18190-10-04-040063	10	125	40	90	63	-	2,888	B	15,0	ANHX 1607...	
	181068500	160A18190-08-04-U040063	8	160	40	110	63	-	4,291	C	15,0	ANHX 1607...	
	181068600	160A18190-12-04-U040063	12	160	40	110	63	-	4,285	C	15,0	ANHX 1607...	

Stock items / Itens de stock Available under request / Disponibilidade sob consulta / Disponible bajo consulta

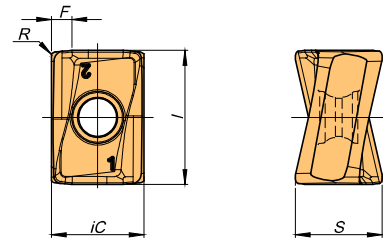
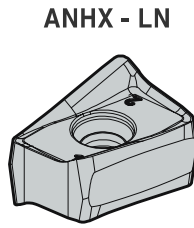
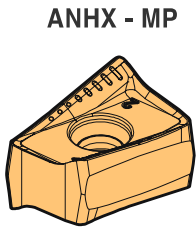
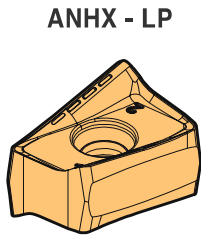
Spare Parts

Order separately

Cutter ØDc	Insert Screw	Key (Torx)	Torque Value	Screw	DIN 6368 Wrench
W18190 – 32-40	P0401200	XT15	3,0	-	-
R18190 – 32-40	P0401200	XT15	3,0	-	-
A18190 – 50-63	P0401200	XT15	3,0	-	-
A18190 – 80	P0401200	XT15	3,0	J0123510	SD6368-12
A18190 – 100	P0401200	XT15	3,0	J0164110	SD6368-16
A18190 – 125	P0401200	PT15	3,0	J0204610	SD6368-20
A18190 – 160	P0401200	PT15	3,0	-	-



ANHX 1607... Inserts | Pastilhas | Plaquetas



(1) Geometry Code	(2) Grade Code	Grades															Dimensions (mm)												
		P						M			K						N		S		iC	S	I	R	F				
		G1	54	G4	68	P3	66	G6	I5	P3	G6	I5	G1	54	G4	68	P3	66	G6	I5						10	D6	P3	G6
1111519	ANHX 160708 PNER-LP	⊗	⊗	⊗	⊗	⊗	⊗					⊗	⊗	⊗	⊗	⊗	⊗							11,20	10,80	16	0,8	1,4	
1111596	ANHX 160712 PNER-LP	⊗	⊗	⊗	⊗	⊗	⊗					⊗	⊗	⊗	⊗	⊗	⊗							11,20	10,50	16	1,2	1,2	
1111595	ANHX 160708 PNER-MP	⊗	⊗	⊗	⊗	⊗	⊗																	11,20	10,80	16	0,8	1,4	
1111598	ANHX 160712 PNER-MP	⊗	⊗	⊗	⊗	⊗	⊗																	11,20	10,50	16	1,2	1,2	
1111659	ANHX 160708 PNFR-LN																			⊗					11,20	10,80	16	0,8	1,4
1111597	ANHX 160712 PNFR-LN																			⊗					11,20	10,50	16	1,2	1,2

⊗ First choice / 1ª escolha / 1ª opción
 ⊗ Stock items / Itens de stock
 ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta
 Insert Order Code = (1) Geometry Code + (2) Grade Code
 ⊗ Inventory maintained. To be replaced by new grades. / Itens em stock. Serão substituídos por novos graus. / Itens en stock. Serán reemplazados por nuevos grados.

Applicable Grades

ISO	Material	HB (Brinell)	Grade	Grades			
				← Wear Resistance		→ Toughness	
				PH0910	PH7(6)910	PH7(6)920	PH7(6)930
P	Unalloyed steel	125-220		✓	✓	✓	
	Low-alloyed steel	220-280		✓	✓	✓	
	High-alloy steel	280-380		✓	✓	✓	
K	Malleable cast iron	130-230		✓	✓	✓	
	Grey cast iron	180-245		✓	✓	✓	
	Nodular cast iron	160-250		✓	✓	✓	
N	Aluminium and Non Ferrous	30-130	✓				

● Good Conditions
⦿ Average Conditions
⊗ Difficult Conditions

A
 Milling
 Plus
 TCPPlus
 HiFeed
 AluPro
 LinePro
 Classic
 ToroMill
 W-Pro
 MultiFit
 HardMill
 Solid Carbide
 Technical Data

PLUS 18190 Milling Tool | Ferramenta | Herramienta

Rec. Cutting Conditions

ISO	PSM	Material	HB (Brinell) Grade	V _c (m/min)						
				← Wear Resistance				Toughness →		
				PH0910	PH7910	PH6910	PH7920	PH6920	PH7930	PH6930
P	1	Unalloyed steel	125-220	-	190-280	180-250	180-250	150-230	160-220	150-180
	2	Low-alloyed steel	220-280	-	180-240	170-210	170-210	140-220	150-180	140-170
	3	High-alloy steel	280-380	-	170-220	160-200	160-200	130-180	130-160	120-150
K	7	Malleable cast iron	130-230	-	180-320	170-300	170-300	150-280	160-280	140-270
	8	Grey cast iron	180-245	-	170-280	150-250	150-250	130-230	140-240	120-225
	9	Nodular cast iron	160-250	-	100-240	90-210	90-210	80-190	90-200	80-180
N	10	Aluminium and Non Ferrous	30-130	350-1200	-	-	-	-	-	-

ISO	PSM	Material	HB (Brinell)	Feed f _z (mm/t)		
				ANHX 16... LP	ANHX 16... MP	ANHX 16... LN
				P	1	Unalloyed steel
2	Low-alloyed steel	220-280	0,10-0,22		0,08-0,25	-
3	High-alloy steel	280-380	0,10-0,20		0,08-0,22	-
K	7	Malleable cast iron	130-230	0,10-0,25	0,08-0,25	-
	8	Grey cast iron	180-245	0,10-0,25	0,08-0,25	-
	9	Nodular cast iron	160-250	0,10-0,20	0,08-0,22	-
N	10	Aluminium and Non Ferrous	30-130	-	-	0,10-0,40

(Note 1) Cutting conditions a_e/D_c=70%.

(Note 2)

Operation	a _e	V _c & f _z	a _p (mm)
Slotting	100%	< 20%	2.0-4.5
Shouldering	< 50%	> 8%	6.0-8.0
	≤ 25%	> 12%	8.0-15.0

(Note 3) It's possible to occur vibrations in certain cases. Please reduce depth of cut and / or reduce cutting conditions in following cases:

- When using long shank;
- When using long tool overhang with arbor type;
- When application has poor clamping rigidity or when using a low rigidity machine.

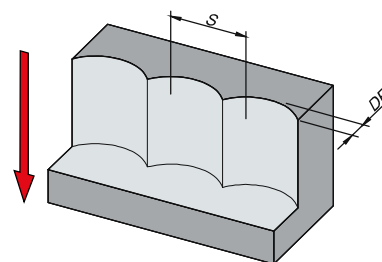
PLUS 18190 Milling Tool | Ferramenta | Herramienta

Chip-Breaker Application

ISO	PSM	Material	HB (Brinell)	Chip Breaker Application	
				1st choice	Difficult Operations
P	1	Unalloyed steel	125-220	ANHX 16... LP	ANHX 16... MP
	2	Low-alloyed steel	220-280	ANHX 16... LP	ANHX 16... MP
	3	High-alloy steel	280-380	ANHX 16... LP	ANHX 16... MP
K	7	Malleable cast iron	130-230	ANHX 16... LP	ANHX 16... MP
	8	Grey cast iron	180-245	ANHX 16... LP	ANHX 16... MP
	9	Nodular cast iron	160-250	ANHX 16... LP	ANHX 16... MP
N	10	Aluminium and Non Ferrous	30-130	ANHX 16... LN	-

Plunging

L ≤ 3Dc	L > 3Dc	S max.
f _z (mm/t)		
0,10-0,20	0,10-0,14	$S_{max.} = \sqrt{DC \cdot a_e \cdot a_{e2}}$



S max and DR corresponding cutting diameter Dc (mm)								
DR (mm)	Dc (mm)							
	32	40	50	63	80	100	125	160
1,0	5,6	6,2	7,0	7,9	8,9	9,9	11,1	12,6
2,0	7,7	8,7	9,8	11,0	12,5	14,0	15,7	17,8
3,0	9,3	10,5	11,9	13,4	15,2	17,1	19,1	21,7
4,0	10,6	12,0	13,6	15,4	17,4	19,6	22,0	25,0
5,0	11,6	13,2	15,0	17,0	19,4	21,8	24,5	27,8