



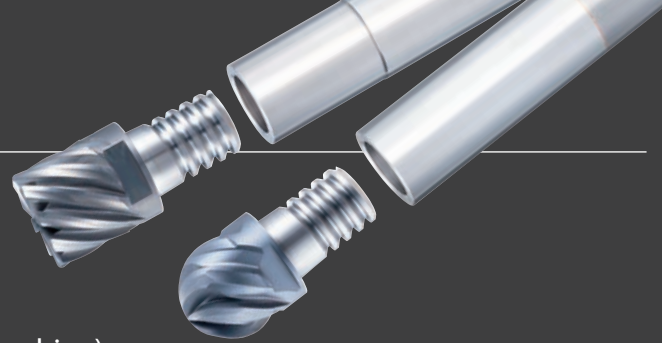
Exchangeable Milling

PHOENIX

PXM SERIES



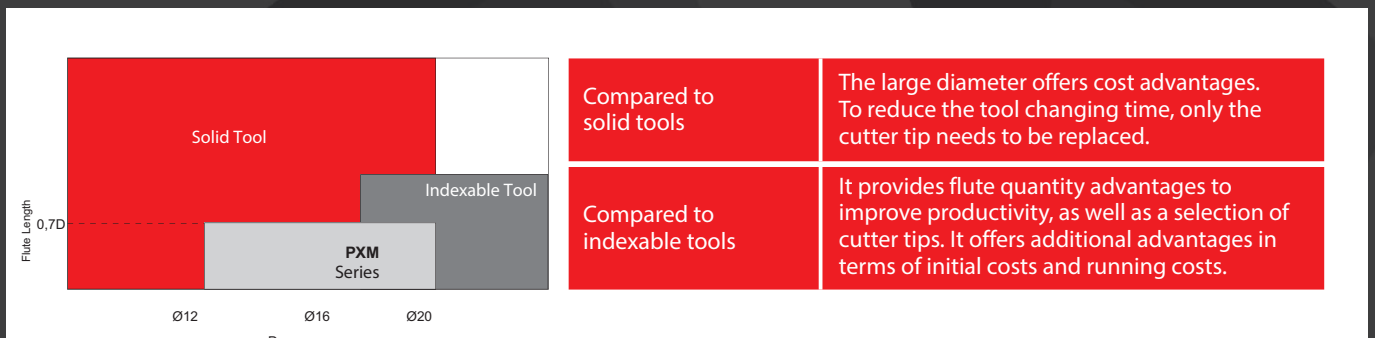
Features : PHOENIX PXM



- Held at two surfaces to ensure runout precision and strength.
- Provided with buttress screws to facilitate coupling.
- Shortened tool replacement time. (Replaceable on machine)
- Numerous variations are possible by combining different heads and bodies.
- The lineup of cutter forms, which is backed by OSG's experience with carbide solid end mills, supports various types of milling.

Held at two surfaces, the end face and the taper, to ensure a high level of rigidity and precision.

**Precision = Runout under 0,015 mm
Axial direction ±0,03 mm**



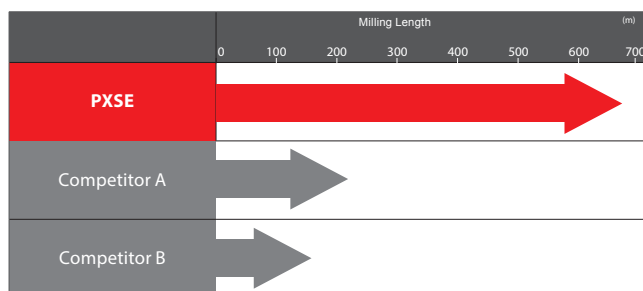
Compared to solid tools	The large diameter offers cost advantages. To reduce the tool changing time, only the cutter tip needs to be replaced.
Compared to indexable tools	It provides flute quantity advantages to improve productivity, as well as a selection of cutter tips. It offers additional advantages in terms of initial costs and running costs.

	PXSE	Unequal Spacing, four flutes, square Type-Corner Radius Type	As a general-purpose tool, it can be used for heavy cutting from slotting to side milling	P.9
	PXVC <small>NEW</small>	Variable lead, four flutes, high hélix, square corner radius type	Stable machining with long overhang length	P.10
	PXSM	Unequal Spacing, multiple flutes, square Type-Corner Radius Type	As a general-purpose tool, it can bring the advantages of multiple cutters into full play.	P.11
	PXNH	Unequal Spacing, variable helix, roughing Type-High helix Type	Suitable for rough milling in a wide range of cutting conditions	P.8
	PXNL	Unequal Spacing, variable helix, roughing Type-Low helix Type	Suitable for rough milling with a long tool life	P.8
	PXRE	High Feed, corner Radius Type	It can mill high hardness materials.	P.12
	PXDR-P <small>NEW</small>	Three flutes, multi purpose, corner radius type	Suitable for machining work wich requires long overhang length	P.12
	PXDR-N <small>NEW</small>	Three flutes, heavy-duty, corner radius type	Suitable for profile milling with long tool life	P.12
	PXBE-P <small>NEW</small>	Three flutes, multi purpose, ball type	It can be used for intermediate-finish and finish milling	P.13
	PXBE-N	Three flutes, ball nose Type	It can perform highly efficient roughing.	P.13
	PXBM	Multiple flutes , ball nose Type	It can be used for intermediate-finish and finish milling.	P.13

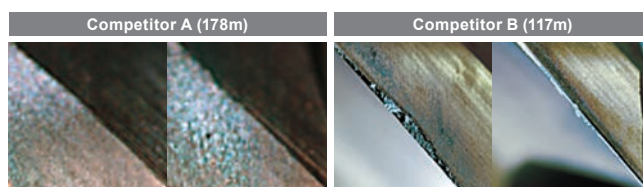
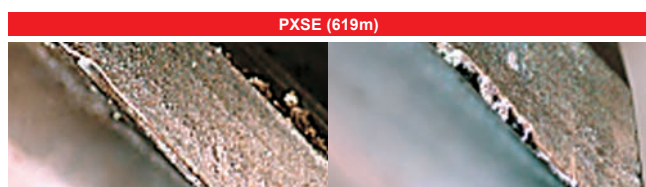
Processing data

PXSE Side milling in SCM440

Tool	Head: PXSE120C12-04R000 Holder: PXMZ-C12SS12-S100
Size	Ø12
Work Material	SCM440 (180HB)
Cutting Speed	100m/min(2.650min ⁻¹)
Feed	1.060mm/min(0,1mm/t)
Milling Method	Side Milling
Depth of Cut	$\bar{a}_p=5\text{mm}$ $\bar{a}_e=3\text{mm}$
Coolant	Air Blow
Machine	BT40 Vertical Machining Center



Durability that overwhelms the competitor's product. Heavy machining is possible.

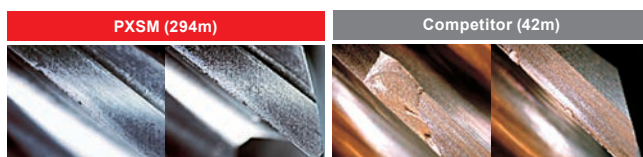


PXSM Side milling in S50C

Tool	Head: PXSM160C16-06R000 Holder: PXMZ-C16SS16-S100
Size	Ø16
Work Material	S50C
Cutting Speed	100m/min(1,990min ⁻¹)
Feed	1,195mm/min(0.1mm/t)
Milling Method	Side Milling
Depth of Cut	$\bar{a}_p=8\text{mm}$ $\bar{a}_e=1.6\text{mm}$
Coolant	Air Blow
Machine	BT40 Horizontal Machining Center

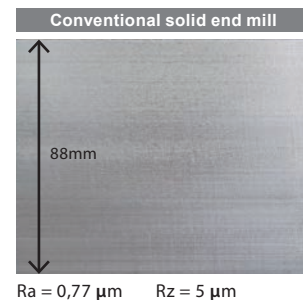
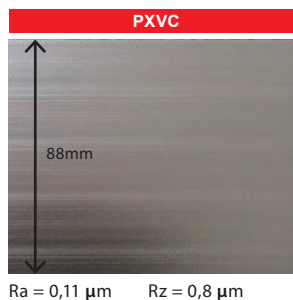


Unique design of PXSM gives stable machining.



PXVC Achieved better surface roughness

Tool	Head: PXVC220C20-04R005 Holder: PXMZ-C20SS20-L150L	Conventinal Solid End Mill
Size	Ø22xR0,5	Ø20
Work Material	SKD61 (40HRC)	
Cutting Speed	50m/min(723min ⁻¹)	50m/min(796min ⁻¹)
Feed	300mm/min(0,104 mm/t)	60mm/min(0,019 mm/t)
Milling Method	Side Milling	
Depth of Cut	$\bar{a}_p=17,6\text{mm}$ (0,8D) $\bar{a}_e=0,05\text{mm}$	$\bar{a}_p=88\text{mm}$ (4,4D) $\bar{a}_e=0,05\text{mm}$
Coolant	Air Blow	
Machine	Vertical Machining Center	



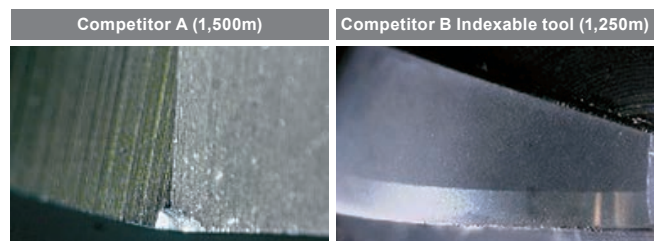
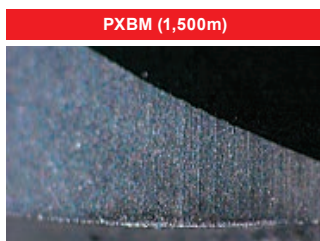
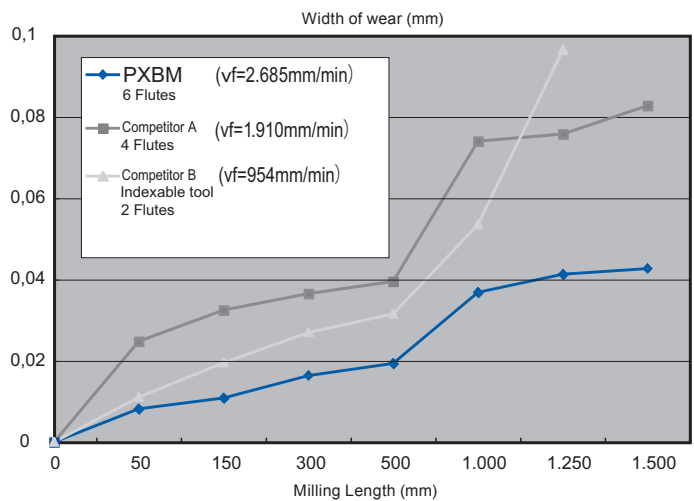
PXVC achieved better accuracy and finished surface in same machining efficiency versus the competition.

Processing data

PXBM Machining at slope face in NAK80 (comparison with the same feed rate)

Tool	Head: PXBM160C16-06R080 Holder: PXMZ-C16SS16-S100
Size	Ø16
Work Material	NAK80(40HRC)
Cutting Speed	200m/min(3.980min ⁻¹)
Feed Per Tooth	0,12mm/t
Milling Method	Pick Milling
Depth of Cut	ap=0,32mm Pf=0,8mm
Coolant	Air Blow
Machine	BT50 Horizontal Machining Center

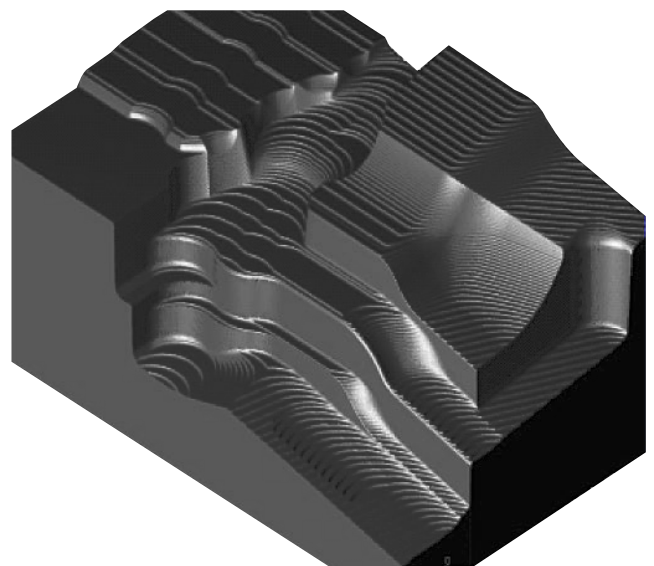
Materialized by more cutting edges for better productivity, longer tool life with superb durability.



PXRE The multiple edge design helps increase efficiency by 1,8 times in die mold roughing processes

Tool	Head: PXRE200C20-06R030 Holder: PXMZ-C20SS20-S120	Competitor High Feed Radius Cutter
Size	Ø20×R3 6 Flutes	Ø20×R3 2 Flutes
Grades	XP6305	Coated Carbide Chip
Work Material	SKD61 (43HRC)	
Cutting Speed	230m/min(3.700min ⁻¹)	120m/min(1.900min ⁻¹)
Feed	6.700mm/min(0,3mm/t)	3.100mm/min(0,8mm/t)
Depth of Cut	0,4mm	0,5mm
Width of Cut	10mm	
Coolant	Air Blow	
Machine	Horizontal Machining Center	

By replacing the high feed radius cutter with the PXRE, milling efficiency can be increased by 1,8 times

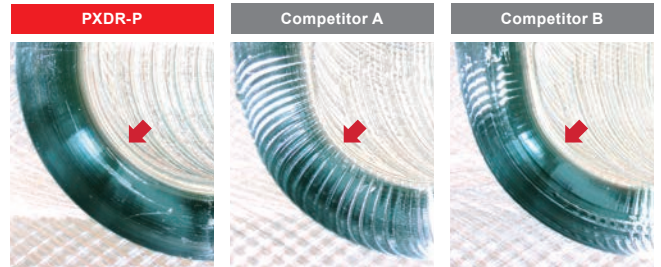


With high feed radius cutters, a simulated R value is inputted in the program during rough milling, resulting in large amounts of uncut areas. In contrast, with the high precision Corner R form PXRE, there are fewer uncut areas, which reduce the load of the next process, thereby increasing tool life and the precision of cut.

Processing data

PXDR-P Stable machining was achieved in easily chatter L/D=7

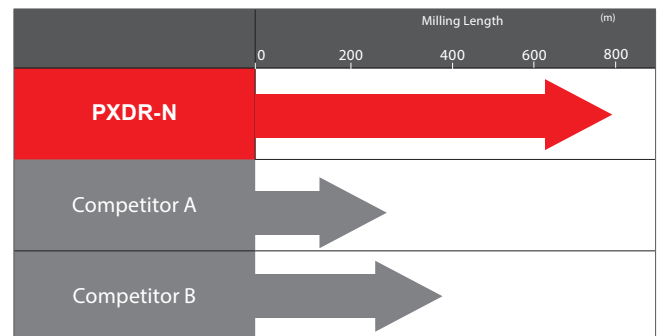
Tool	Head: PXDR160C16-03R030-P Holder: PXMZ-C16SS16-L135CS		Competitor 4 flutes
Size	Ø16×R3 3 Flutes		
Work Material	NAK80 40HRC		
Cutting Speed	30m/min(597min ⁻¹)		
Feed	537mm/min(0.30mm/t)	537mm/min(0.22mm/t)	
Milling Method	L-shaped machining		
Depth of Cut	ap=0.4mm(0.025Dc) ae=8mm(0.5Dc)		
Width of Cut	112mm(L/D=7)		
Coolant	Air Blow		
Machine	Vertical Machining Center (BT40)		



PXDR-P achieved fair finished surface with less chatter at the corner of work versus the competition.

PXDR-N Long tool life was achieved machining in L/D=7, which chatters easily.

Tool	Head: PXDR160C16-03R030-N Holder: PXMZ-C16SS16-L135CS		Competitor 4 flutes
Size	Ø16×R3 3 Flutes		
Work Material	SKD61 (40HRC)		
Cutting Speed	120m/min(2,387min ⁻¹)		
Feed	2.149mm/min(0.30mm/t)	2.149mm/min(0.22mm/t)	
Milling Method	Fau Milling		
Depth of Cut	ap=0.4mm(0.025Dc) ae=8mm(0.5Dc)		
Width of Cut	112mm(L/D=7)		
Coolant	Air Blow		
Machine	Vertical Machining Center (BT40)		



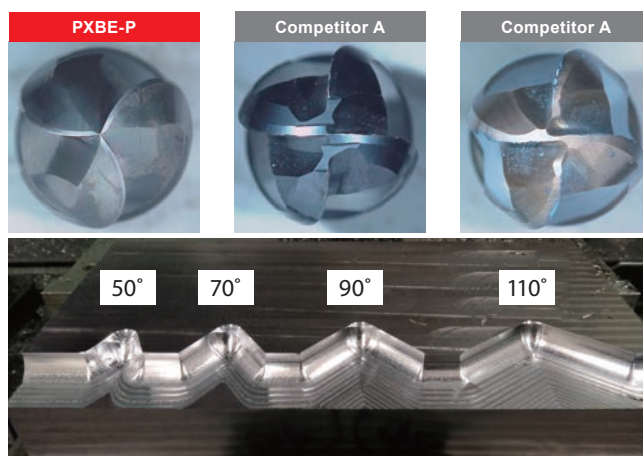
PXDR-P was capable to achieve twice the durability versus the competition.



Processing data

PXBE-P The 3 flutes PXBE-P was more capable versus 4 flute in machining work with complicated shape

Tool	Head: PXBE160C16-03R080-P Holder: PXMZ-C16SS16-L130CS		Competitor 4 Flutes
Size	Ø16xR8 3 Flutes		
Work Material	SKD61 (40HRC)		
Cutting Speed	75m/min(1.492min ⁻¹)		
Feed	224mm/min(0,05mm/t)	298mm/min(0,05mm/t)	
Depth of Cut	ap=0,8mm(0.05Dc) ae=2,4mm(0.15Dc)		
Width of Cut	78mm(L/D=4,9)		
Coolant	Air Blow		
Machine	Vertical Machining Center (BT40)		



PXBE-N Tooling cost reduced by switching from solid tools in die casting machining

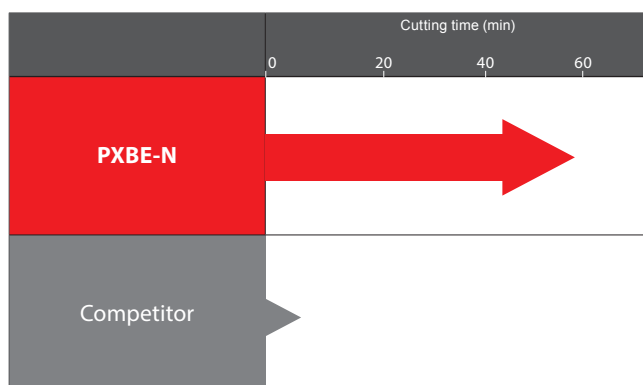
Tool	Head : PXBE160C16-03R080-N Holder : PXMZ-C16SS16-L130CS		Competitor's solid carbide tool
Size	Ø16xR8 3 flutes	Ø16xR8 4 flutes	
Work	Press Dies		
Work Material	SKD11 (60HRC)		
Cutting Speed	90m/min(1,800min ⁻¹)		
Feed	810mm/min(0.15mm/t)	810mm/min(0.11mm/t)	
Milling Method	Pick Milling		
Depth of Cut	ap=0.32mm ae=0.8mm		
Coolant	Water Soluble		
Machine	Vertical Machining Center (BT50)		
Milling Length	330 m		



PXM achieved the same machining efficiency and the cutting length of 330m as the solid end mill.

PXBE-N Machining efficiency improved by switching from indexable tools in welding parts machining

Tool	Head: PXBE160C16-03R080-N Holder: PXMZ-C16SS16-L130CS		Competitor's solid carbide tool
Size	Ø20xR10 3 flutes	Ø20xR10 2 flutes	
Work	Die-casting Die		
Work Material	SKD61 (520HRC) Weld overlay		
Cutting Speed	75m/min(1.200min ⁻¹)		
Feed	420mm/min(0.12mm/t)	420mm/min(0.17mm/t)	
Milling Method	Pick Milling		
Depth of Cut	ap=10mm ae=1mm		
Coolant	Air Blow		
Machine	Horizontal Machining Center (BT50)		



Twelve times durability was achieved than the competitor indexable tool. Machining efficiency was highly improved, which was partly due to the shortened tool-change time.

Processing data


PXSM The multiple edge design helps double efficiency in the milling of blades

Tool	Head: PXSM160C16-06R005 Holder: PXMZ-C16SS16-L130CS	Competitor Radius Cutter
Size	Ø16×R0,5 6 Flutes	Ø16×R2,5 2 Flutes
Grades	XP3225	Coated Carbide Chip
Work Material	13Cr Equivalent	
Cutting Speed	125m/min(2.500min ⁻¹)	
Feed	690mm/min(0,046mm/t)	350mm/min(0,07mm/t)
Depth of Cut	ap=1mm ae=0,25mm	
Coolant	Air Blow	
Machine	5-Axis Vertical Machining Center	




In finishing operations with settings that are difficult to modify, switching to the Phoenix Radius Cutter can double milling efficiency


Tightening procedure




1. Cleaning
Remove dirt and chips from the connecting thread and shank.



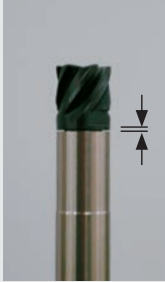
2. Initial Tightening
Tighten by hand




3. Final Tightening
Tighten with a spanner wrench



4. Confirmation
Confirm that there is no gap



With gap

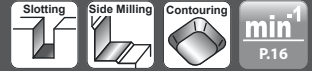


No gap

Cautions during use

- Only use the spanner wrenches that are designed specifically for the PXM (P. 13). Please do not use alternative spanner wrenches sold on the market as a replacement.
- Please tighten until the head and the shank holder faces meet. Confirm that there is no gap.
- Degreasing the connecting thread may result in over tightening or a possible separation of the faces. Please do not degrease.
- Please make sure that the spanner wrench is inserted properly and turn it slowly during use.

PXNL



- High performance
- Unequal spacing
- Variable helix
- Roughing type
- Low helix

- High performance
- Ungleicher Drill
- Ungleich gedallte Spiralwinkel
- Schruppfräser
- Kleiner Spiralwinkel

- Alta prestazione
- Passo variabile
- Elica variabile
- Sgrossatura
- Elica a bassa torsione

- Haute performance
- Espacement inégal
- Hélice variable
- Ebauche
- Hélice réduite

- Yüksek performans
- Dengesiz aralık
- Değişken spiral kanallar
- Kaba
- Düşük helis

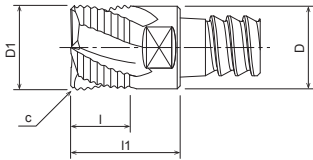
- High performance
- Ulige inddeling
- Variabel snoning
- Skrubfræsning
- Let snoet spiral

- High performance
- Differentierade skär
- Variabel helix
- Skrubfræsning
- Liten helix

- Altas prestaciones
- Passo constante
- Variable helice
- Desbaste
- Lenta helice

- Высокая производительность
- неравномерно расположенный
- Черновая обработка
- Черновая типа
- Температура спирали

- Wysoka wydajność
- Nierównomierny rozstaw
- zmienny kąt spirali
- Zgrubna
- Mała spirala



EDP	Designation	ZΔ	D1	c	l	l1	D	Helix Angle	Grades	Price
7830401	PXNL120C12-04C005	4	12	0,5	8,4	14,4	11,7	19/21	XP3225	
7830402	PXNL160C16-04C006	4	16	0,6	11,2	18,7	15,7	19/21	XP3225	
7830403	PXNL200C20-04C006	4	20	0,6	14	21,5	19,6	19/21	XP3225	
7830404	PXNL250C25-04C006	4	25	0,6	17,5	27,5	24	19/21	XP3225	

ZΔ= Number of flutes - Anzahl Schneiden - Numero di denti - Nombre de lèvres - Liczba ostrzy - Antal skær - Antal skär - Numero de ranuras - Число режущих кромок - Kanal sayısı

PXNH



- High performance
- Unequal spacing
- Variable helix
- Roughing type
- High helix

- High performance
- Ungleicher Drill
- Ungleich gedallte Spiralwinkel
- Schruppfräser
- Großer Spiralwinkel

- Alta prestazione
- Passo variabile
- Elica variabile
- Sgrossatura
- Elica elevata torsione

- Haute performance
- Espacement inégal
- Hélice variable
- Ebauche
- Hélice haute

- Yüksek performans
- Dengesiz aralık
- Değişken spiral kanallar
- Kaba
- Yüksek helis açısı

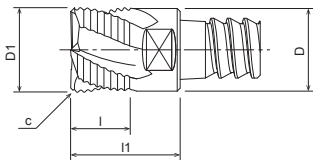
- High performance
- Ulige inddeling
- Variabel snoning
- Skrubfræsning
- Høj helix

- High performance
- Differentierade skär
- Variabel helix
- Skrubfræsning
- Skärångd

- Altas prestaciones
- Passo constante
- Variable helice
- Desbaste
- Alta helice

- Высокая производительность
- неравномерно расположенный
- Черновая обработка
- Черновая типа
- Пологая спираль

- Wysoka wydajność
- Nierównomierny rozstaw
- zmienny kąt spirali
- Zgrubna
- Duża spirala



EDP	Designation	ZΔ	D1	c	l	l1	D	Helix Angle	Grades	Price
7830451	PXNH120C12-04C005	4	12	0,5	8,4	14,4	11,7	40/42	XP3225	
7830452	PXNH160C16-04C006	4	16	0,6	11,2	18,7	15,7	40/42	XP3225	
7830453	PXNH200C20-04C006	4	20	0,6	14	21,5	19,6	40/42	XP3225	
7830454	PXNH250C25-04C006	4	25	0,6	17,5	27,5	24	40/42	XP3225	

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- High performance
- Unequal spacing
- 4 flutes
- Corner radius type
- Square Type

- High performance
- Ungleicher Drill
- 4 Schneiden
- Eckradiusfräser
- Schafffräser

- Alta prestazione
- Passo variabile
- 4 denti
- Tipo torico
- Tipo piano

- Haute performance
- Espacement inégal
- 4 lèvres
- Fraise à rayon
- Type carré

- Yüksek performans
- Dengesiz aralık
- 4 açılızlı
- Köşe radyuslu tipi
- Kare tip

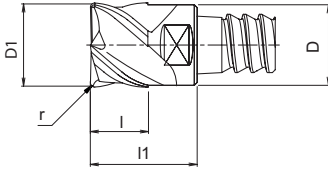
- High performance
- Ulige inddeling
- 4 Skær
- Hjørneradius
- Skarp type

- High performance
- Differentierade skär
- 4 Skär
- Hörnradie
- Skarp typ

- Altas prestaciones
- Passo constante
- 4 Labio
- Con radio en el vértice
- Escuadrado

- Высокая производительность
- неравномерно расположенный
- 4 режущих кромки
- Концевые фрезы с радиусом
- В форме квадрата

- Wysoka wydajność
- Nierównomierny rozstaw
- 4-ostrowy
- Z promieniem naroża
- Walcowy



EDP	Designation	ZΔ	D1	r	l	l1	D	Helix Angle	Grades	Price
7830004	PXSE120C12-04R000	4	12	0	8,4	14,4	11,7	38	XP3225	
7830005	PXSE120C12-04R005	4	12	0,5	8,4	14,4	11,7	38	XP3225	
7830006	PXSE120C12-04R010	4	12	1	8,4	14,4	11,7	38	XP3225	
7830007	PXSE120C12-04R020	4	12	2	8,4	14,4	11,7	38	XP3225	
7830008	PXSE120C12-04R030	4	12	3	8,4	14,4	11,7	38	XP3225	
7830009	PXSE160C16-04R000	4	16	0	11,2	18,7	15,7	38	XP3225	
7830010	PXSE160C16-04R005	4	16	0,5	11,2	18,7	15,7	38	XP3225	
7830011	PXSE160C16-04R010	4	16	1	11,2	18,7	15,7	38	XP3225	
7830012	PXSE160C16-04R015	4	16	1,5	11,2	18,7	15,7	38	XP3225	
7830013	PXSE160C16-04R020	4	16	2	11,2	18,7	15,7	38	XP3225	
7830014	PXSE160C16-04R030	4	16	3	11,2	18,7	15,7	38	XP3225	
7830015	PXSE200C20-04R000	4	20	0	14	21,5	19,6	38	XP3225	
7830016	PXSE200C20-04R005	4	20	0,5	14	21,5	19,6	38	XP3225	
7830017	PXSE200C20-04R010	4	20	1	14	21,5	19,6	38	XP3225	
7830018	PXSE200C20-04R020	4	20	2	14	21,5	19,6	38	XP3225	
7830019	PXSE200C20-04R030	4	20	3	14	21,5	19,6	38	XP3225	
7830020	PXSE250C25-04R000	4	25	0	17,5	27,5	24	38	XP3225	
7830021	PXSE250C25-04R010	4	25	1	17,5	27,5	24	38	XP3225	
7830022	PXSE250C25-04R020	4	25	2	17,5	27,5	24	38	XP3225	
7830023	PXSE250C25-04R030	4	25	3	17,5	27,5	24	38	XP3225	

ZΔ= Number of flutes - Anzahl Schneiden - Numero di denti - Nombre de lèvres - Liczba ostrzy -
 Antal skær - Antal skär - Numero de ranuras - Число режущих кромок - Kanal sayısı



- High performance
- Variable lead
- 4 flutes
- Corner radius type
- Square Type

- High performance
- Ungleiche Teilung
- 4 Schneiden
- Eckradiusfräser
- Schafffräser

- Alta prestazione
- Ellice passo variabile
- 4 denti
- Tipo torico
- Tipo piano

- Haute performance
- Hélice variable
- 4 lèvres
- Fraise à rayon
- Type carré

- Yüksek performans
- Değişken helisel açılı tip
- 4 ağızlı
- Köşe radyuslu tipi
- Kare tip

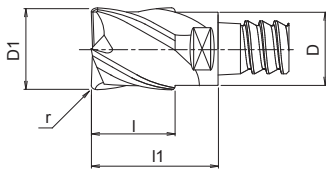
- High performance
- Variabel helix
- 4 Skær
- Hjørneradius
- Skarp type

- High performance
- Variabla-helix
- 4 Skär
- Hörnradie
- Skarp typ

- Altas prestaciones
- Helice variable
- 4 Labio
- Con radio en el vértice
- Escuadrado

- Высокая производительность
- с переменным углом наклона витков
- 4 режущих кромки
- Концевые фрезы с радиусом
- В форме квадрата

- Wysoka wydajność
- nierównomiernym rozkładem rozkładem zębów
- 4-ostrzowy
- Z promieniem naroża
- Walcowy



EDP	Designation	ZΔ	D1	r	l	l1	D	Helix Angle	Grades	Price
7835004	PXVC120C12-04R000	4	12	0	12	18	11,7	45/48	XP3225	
7835005	PXVC120C12-04R005	4	12	0,5	12	18	11,7	45/48	XP3225	
7835006	PXVC120C12-04R010	4	12	1	12	18	11,7	45/48	XP3225	
7835007	PXVC120C12-04R020	4	12	2	12	18	11,7	45/48	XP3225	
7835008	PXVC120C12-04R030	4	12	3	12	18	11,7	45/48	XP3225	
7835009	PXVC140C12-04R000	4	14	0	14	20	11,7	45/48	XP3225	
7835010	PXVC140C12-04R005	4	14	0,5	14	20	11,7	45/48	XP3225	
7835011	PXVC140C12-04R010	4	14	1	14	20	11,7	45/48	XP3225	
7835012	PXVC140C12-04R020	4	14	2	14	20	11,7	45/48	XP3225	
7835013	PXVC140C12-04R030	4	14	3	14	20	11,7	45/48	XP3225	
7835014	PXVC160C16-04R000	4	16	0	16	23,5	15,7	45/48	XP3225	
7835015	PXVC160C16-04R005	4	16	0,5	16	23,5	15,7	45/48	XP3225	
7835016	PXVC160C16-04R010	4	16	1	16	23,5	15,7	45/48	XP3225	
7835017	PXVC160C16-04R015	4	16	1,5	16	23,5	15,7	45/48	XP3225	
7835018	PXVC160C16-04R020	4	16	2	16	23,5	15,7	45/48	XP3225	
7835019	PXVC160C16-04R030	4	16	3	16	23,5	15,7	45/48	XP3225	
7835020	PXVC180C16-04R000	4	18	0	18	25,5	15,7	45/48	XP3225	
7835021	PXVC180C16-04R005	4	18	0,5	18	25,5	15,7	45/48	XP3225	
7835022	PXVC180C16-04R010	4	18	1	18	25,5	15,7	45/48	XP3225	
7835023	PXVC180C16-04R020	4	18	2	18	25,5	15,7	45/48	XP3225	
7835024	PXVC180C16-04R030	4	18	3	18	25,5	15,7	45/48	XP3225	
7835025	PXVC200C20-04R000	4	20	0	20	27,5	19,6	45/48	XP3225	
7835026	PXVC200C20-04R005	4	20	0,5	20	27,5	19,6	45/48	XP3225	
7835027	PXVC200C20-04R010	4	20	1	20	27,5	19,6	45/48	XP3225	
7835028	PXVC200C20-04R020	4	20	2	20	27,5	19,6	45/48	XP3225	
7835029	PXVC200C20-04R030	4	20	3	20	27,5	19,6	45/48	XP3225	
7835030	PXVC220C20-04R000	4	22	0	22	29,5	19,6	45/48	XP3225	
7835038	PXVC220C20-04R005	4	22	0,5	22	29,5	19,6	45/48	XP3225	
7835031	PXVC220C20-04R010	4	22	1	22	29,5	19,6	45/48	XP3225	
7835032	PXVC220C20-04R020	4	22	2	22	29,5	19,6	45/48	XP3225	
7835033	PXVC220C20-04R030	4	22	3	22	29,5	19,6	45/48	XP3225	
7835034	PXVC250C25-04R000	4	25	0	25	35	24	45/48	XP3225	
7835035	PXVC250C25-04R010	4	25	1	25	35	24	45/48	XP3225	
7835036	PXVC250C25-04R020	4	25	2	25	35	24	45/48	XP3225	
7835037	PXVC250C25-04R030	4	25	3	25	35	24	45/48	XP3225	

ZΔ= Number of flutes - Anzahl Schneiden - Numero di denti - Nombre de lèvres - Liczba ostrzy -
 Antal skær - Antal skär - Numero de ranuras - Число режущих кромок - Kanal sayısı

- High performance
- Unequal spacing
- Multi flutes
- Corner radius type
- Square Type

- High performance
- Ungleicher Drill
- Vielzahnfräser
- Eckradiusfräser
- Schafffräser

- Alta prestazione
- Passo variabile
- Multidentati
- Tipo torico
- Tipo piano

- Haute performance
- Espacement inégal
- Lèvres multiples
- Fraise à rayon
- Type carré

- Yüksek performans
- Dengesiz aralık
- çok açılızlı
- Köşe radyuslu tipi
- Kare tip

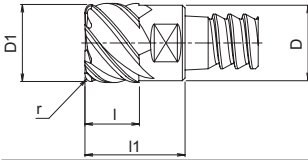
- High performance
- Ulige inddeling
- Flerskærs
- Hjørneradius
- Skarp type

- High performance
- Differentierade skär
- Flerskårs
- Hörnradie
- Skarp typ

- Altas prestaciones
- Passo constante
- Ranúras múltiples
- Con radio en el vértice
- Escuadrado

- Высокая производительность
- неравномерно расположенный
- Многозубые
- Концевые фрезы с радиусом
- В форме квадрата

- Wysoka wydajność
- Nierównomierny rozstaw
- Wielostrzowy
- Z promieniem naroża
- Walcowy



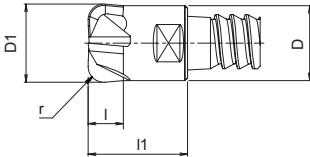
EDP	Designation	ZΔ	D1	r	l	l1	D	Helix Angle	Grades	Price
7830104	PXSM120C12-06R000	6	12	0	8,4	14,4	11,7	38	XP3225	
7830105	PXSM120C12-06R005	6	12	0,5	8,4	14,4	11,7	38	XP3225	
7830106	PXSM120C12-06R010	6	12	1	8,4	14,4	11,7	38	XP3225	
7830107	PXSM120C12-06R020	6	12	2	8,4	14,4	11,7	38	XP3225	
7830108	PXSM120C12-06R030	6	12	3	8,4	14,4	11,7	38	XP3225	
7830109	PXSM160C16-06R000	6	16	0	11,2	18,7	15,7	38	XP3225	
7830110	PXSM160C16-06R005	6	16	0,5	11,2	18,7	15,7	38	XP3225	
7830111	PXSM160C16-06R010	6	16	1	11,2	18,7	15,7	38	XP3225	
7830112	PXSM160C16-06R015	6	16	1,5	11,2	18,7	15,7	38	XP3225	
7830113	PXSM160C16-06R020	6	16	2	11,2	18,7	15,7	38	XP3225	
7830114	PXSM160C16-06R030	6	16	3	11,2	18,7	15,7	38	XP3225	
7830115	PXSM160C16-08R000	8	16	0	11,2	18,7	15,7	42	XP3225	
7830116	PXSM160C16-08R005	8	16	0,5	11,2	18,7	15,7	42	XP3225	
7830117	PXSM160C16-08R010	8	16	1	11,2	18,7	15,7	42	XP3225	
7830118	PXSM160C16-08R015	8	16	1,5	11,2	18,7	15,7	42	XP3225	
7830119	PXSM160C16-08R020	8	16	2	11,2	18,7	15,7	42	XP3225	
7830120	PXSM160C16-08R030	8	16	3	11,2	18,7	15,7	42	XP3225	
7830121	PXSM200C20-10R000	10	20	0	14	21,5	19,6	42	XP3225	
7830122	PXSM200C20-10R005	10	20	0,5	14	21,5	19,6	42	XP3225	
7830123	PXSM200C20-10R010	10	20	1	14	21,5	19,6	42	XP3225	
7830124	PXSM200C20-10R020	10	20	2	14	21,5	19,6	42	XP3225	
7830125	PXSM200C20-10R030	10	20	3	14	21,5	19,6	42	XP3225	
7830126	PXSM250C25-10R000	10	25	0	17,5	27,5	24	42	XP3225	
7830127	PXSM250C25-10R010	10	25	1	17,5	27,5	24	42	XP3225	
7830128	PXSM250C25-10R020	10	25	2	17,5	27,5	24	42	XP3225	
7830129	PXSM250C25-10R030	10	25	3	17,5	27,5	24	42	XP3225	

ZΔ= Number of flutes - Anzahl Schneiden - Numero di denti - Nombre de lèvres - Liczba ostrzy -
 Antal skær - Antal skär - Numero de ranuras - Число режущих кромок - Kanal sayısı

PXRE



- High performance
- Straight flute
- High feed corner radius type
- High performance
- Lige skærs
- High feed fræser med hjørneradius
- High performance
- Ohne Drall
- Hochvorschubfräser
- High performance
- Rakt skär
- High feed fräs med hörnradi
- Alta prestazione
- Taglio diritto
- Tipo torico alto avanzamento
- Alta prestaciones
- Ranura recta
- Radio en el vértice para alta velocidad
- Haute performance
- Lèvre droite
- Fraise grandes avances
- Высокая производительность
- прямая канавка
- Фрезы с высокой подачей и радиусом на кромке
- Yüksek performans
- Düz ağızlı
- Yüksek ilerlemeli freze
- Wysoka wydajność
- Rowki proste
- Frez do wysokich posuwów



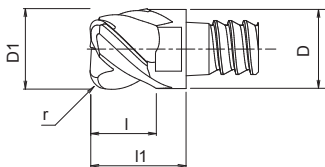
EDP	Designation	ZΔ	D1	r	l	l1	D	Helix Angle	Grades	Price
7830201	PXRE120C12-04R020	4	12	2	5	14,4	11,7	-	XP6305	
7830202	PXRE160C16-06R030	6	16	3	7	18,7	15,7	-	XP6305	
7830203	PXRE200C20-06R030	6	20	3	10	21,5	19,6	-	XP6305	

ZΔ= Number of flutes - Anzahl Schneiden - Numero di denti - Nombre de lèvres - Liczba ostrzy - Antal skær - Antal skär - Numero de ranuras - Число режущих кромок - Kanal sayısı

PXDR-P / PXDR-N



- High performance
- 3 flutes
- Corner radius
- High performance
- 3 Schneiden
- Kopierfräser
- Alta prestazione
- 3 Denti
- Tipo torico
- Haute performance
- 3 Lèvres
- Fraise à rayon
- Yüksek performans
- 3 ağızlı
- Köşe radiuslu tipi
- High performance
- 3 Skær
- Hjørneradius
- High performance
- 3 Skär
- Hörnradi
- Altas prestaciones
- 3 Labio
- Con radio en el vértice
- Высокая производительность
- 3 режущих кромки
- В форме квадрата
- Wysoka wydajność
- 3-ostrzowy
- Z promieniem naroża



PXDR-P - Multi-Purpose

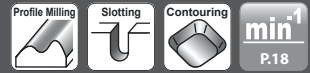
EDP	Designation	ZΔ	D1	r	l	l1	D	Helix Angle	Grades	Price
7830351	PXDR120C12-03R015-P	3	12	1,5	8,4	14,4	11,7	45	XP3225	
7830352	PXDR120C12-03R020-P	3	12	2	8,4	14,4	11,7	45	XP3225	
7830353	PXDR160C16-03R020-P	3	16	2	11,2	18,7	15,7	45	XP3225	
7830354	PXDR160C16-03R030-P	3	16	3	11,2	18,7	15,7	45	XP3225	
7830355	PXDR200C20-03R020-P	3	20	2	14	21,5	19,6	45	XP3225	
7830356	PXDR200C20-03R030-P	3	20	3	14	21,5	19,6	45	XP3225	

PXDR-N - Heavy-Duty

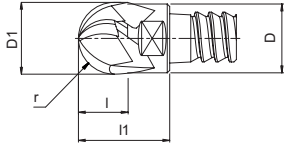
EDP	Designation	ZΔ	D1	r	l	l1	D	Helix Angle	Grades	Price
7830371	PXDR120C12-03R015-N	3	12	1,5	8,4	14,4	11,7	45	XP6305	
7830372	PXDR120C12-03R020-N	3	12	2	8,4	14,4	11,7	45	XP6305	
7830373	PXDR160C16-03R020-N	3	16	2	11,2	18,7	15,7	45	XP6305	
7830374	PXDR160C16-03R030-N	3	16	3	11,2	18,7	15,7	45	XP6305	
7830375	PXDR200C20-03R020-N	3	20	2	14	21,5	19,6	45	XP6305	
7830376	PXDR200C20-03R030-N	3	20	3	14	21,5	19,6	45	XP6305	

ZΔ= Number of flutes - Anzahl Schneiden - Numero di denti - Nombre de lèvres - Liczba ostrzy - Antal skær - Antal skär - Numero de ranuras - Число режущих кромок - Kanal sayısı

PXBE-P / PXBE-N



- High performance
- 3 flutes
- Ball type
- High performance
- 3 Schneiden
- Kopierfräser
- Alta prestazione
- 3 Denti
- Frese sferiche
- Haute performance
- 3 Lèvres
- Boule
- Yüksek performans
- 3 ağızlı
- Küre tip
- High performance
- 3 Skær
- Radiusfræser
- High performance
- 3 Skär
- Fullradie
- Altas prestaciones
- 3 Labio
- Esferica
- Высокая производительность
- 3 режущих кромки
- Сферическая фреза
- Wysoka wydajność
- 3-ostrzowy
- Typ kulowy



PXBE-P - Multi-Purpose

EDP	Designation	ZΔ	D1	r	l	l1	D	Helix Angle	Grades	Price
7830271	PXBE120C12-03R060-P	3	12	6	8,4	14,4	11,7	45	XP3320	
7830272	PXBE160C16-03R080-P	3	16	8	11,2	18,7	15,7	45	XP3320	
7830273	PXBE200C20-03R100-P	3	20	10	14	21,5	19,6	45	XP3320	

PXBE-N - Heavy-Duty

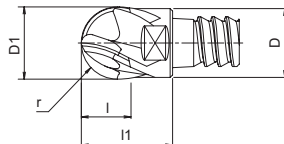
EDP	Designation	ZΔ	D1	r	l	l1	D	Helix Angle	Grades	Price
7830251	PXBE120C12-03R060-N	3	12	6	8,4	14,4	11,7	45	XP3320	
7830252	PXBE160C16-03R080-N	3	16	8	11,2	18,7	15,7	45	XP3320	
7830253	PXBE200C20-03R100-N	3	20	10	14	21,5	19,6	45	XP3320	

ZΔ= Number of flutes - Anzahl Schneiden - Numero di denti - Nombre de lèvres - Liczba ostrzy -
Antal skær - Antal skär - Numero de ranuras - Число режущих кромок - Kanal sayısı

PXBM



- High performance
- Multiple flutes
- Ball type
- High performance
- Mehrschneidig
- Kopierfräser
- Alta prestazione
- Multitaglio
- Frese sferiche
- Haute performance
- Multidents
- Boule
- Yüksek performans
- Çok ağızlı
- Küre tip
- High performance
- Flerskær
- Radiusfræser
- High performance
- Flerskärig
- Fullradie
- Altas prestaciones
- Ranúras múltiples
- Esferica
- Высокая производительность
- Многозубые
- Сферическая фреза
- Wysoka wydajność
- Wieloostrzowy
- Typ kulowy



EDP	Designation	ZΔ	D1	r	l	l1	D	Helix Angle	Grades	Price
7830301	PXBM120C12-04R060	4	12	6	8,4	14,4	11,7	45	XP3320	
7830302	PXBM160C16-06R080	6	16	8	11,2	18,7	15,7	45	XP3320	
7830303	PXBM200C20-06R100	6	20	10	14	21,5	19,6	45	XP3320	

ZΔ= Number of flutes - Anzahl Schneiden - Numero di denti - Nombre de lèvres - Liczba ostrzy -
Antal skær - Antal skär - Numero de ranuras - Число режущих кромок - Kanal sayısı

- High performance
- Arbor for Replaceable head end mills
- Steel Shank

- High performance
- Für Aufschraubfräser
- Stahlschaft

- Alta prestazione
- Stelo intercambiabile per Frese
- Gambo in acciaio

- Haute performance
- Arbre d'attache pour fraise remplaçable PXM
- Tige en acier

- Yüksek performans
- Değiştirilebilir başlıklı/uçlu parmak freze için takım tutucu
- Çelik shaft

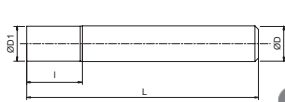
- High performance
- Skaft til udskiftelige
- Fræsetyper Stål skaft

- High performance
- Skaft till utbytbara
- Frästyper Stål skaft

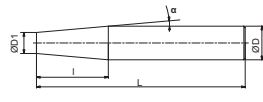
- Altas prestaciones
- Fijación para cabeza
- Intercambiable Mango de acero

- Высокая производительность
- Оправка для сменных головок концевой фрезы
- Стальной хвостовик

- Wysoka wydajność
- Uchwyt do wymiany głowic i frezów
- Trzpień stalowy



Type 1



Type 2



Arbor with Steel Shank (Including Spanner)

EDP	Designation	Proper Head ø	D1	D	α°	L	I	Head + I			Type	Price
								Except PXVC	PXVC	PXVC ØD1 > D		
48174001	PXMZ-C12SS12-S100	12	11,7	12	0°	100	18	32,4	36	38	1	
48174002	PXMZ-C12TP20-S145	12	11,7	20	5°	145	47,4	61,8	65,4	67,4	2	
48174003	PXMZ-C16SS16-S100	16	15,7	16	0°	100	23	41,7	46,5	48,5	1	
48174004	PXMZ-C16TP25-S155	16	15,7	25	5°	155	53,1	71,8	76,6	78,6	2	
48174005	PXMZ-C20SS20-S120	20	19,6	20	0°	120	28	49,5	55,5	57,5	1	
48174006	PXMZ-C20TP32-S170	20	19,6	32	5°	170	70,8	92,3	98,3	100,3	2	
48174007	PXMZ-C25SS25-S140	25	24	25	0°	140	34,5	62	69,5	-	1	

- High performance
- Arbor for Replaceable head end mills
- Carbide Shank

- High performance
- Für Aufschraubfräser
- Vollhartmetall Schaft

- Alta prestazione
- Stelo intercambiabile per Frese
- Gambo in Metallo Duro

- Haute performance
- Arbre d'attache pour fraise remplaçable PXM
- Tige en carbure

- Yüksek performans
- Değiştirilebilir başlıklı/uçlu parmak freze için takım tutucu
- Karbür shaft

- High performance
- Skaft til udskiftelige
- Hårdmetall skaft

- High performance
- Skaft till utbytbara
- Hårdmetall skaft

- Altas prestaciones
- Fijación para cabeza
- Mango de metal duro

- Высокая производительность
- Оправка для сменных головок концевой фрезы
- хвостовик из твердого сплава

- Wysoka wydajność
- Uchwyt do wymiany głowic i frezów
- Chwyt węglak

Arbor with Carbide Shank (Including Spanner)

EDP	Designation	Proper Head ø	D1	D	α°	L	I	Head + I			Type	Price
								Except PXVC	PXVC	PXVC ØD1 > D		
48174008	PXMZ-C12SS12-S075CS	12	11,7	12	0°	75	24	38,4	42	44	1	
48174009	PXMZ-C12SS12-L100CS	12	11,7	12	0°	100	45,9	60,3	63,9	65,9	1	
48174010	PXMZ-C12SS12-L115CS	12	11,7	12	0°	115	64,2	78,6	82,2	84,2	1	
48174011	PXMZ-C12TP16-LL135CS	12	11,7	16	1,3°	135	83,8	98,2	101,8	103,8	2	
48174012	PXMZ-C16SS16-S090CS	16	15,7	16	0°	90	39,2	57,9	62,7	64,7	1	
48174013	PXMZ-C16SS16-L130CS	16	15,7	16	0°	130	61,2	79,9	84,7	86,7	1	
48174014	PXMZ-C16SS16-L135CS	16	15,7	16	0°	135	84,2	102,9	107,7	109,7	1	
48174015	PXMZ-C16TP20-LL165CS	16	15,7	20	1,1°	165	115	136,5	138,5	140,5	2	
48174016	PXMZ-C20SS20-S090CS	20	19,6	20	0°	90	39,1	60,6	66,6	68,6	1	
48174017	PXMZ-C20SS20-L150CS	20	19,6	20	0°	150	78,4	99,9	105,9	107,9	1	
48174018	PXMZ-C20SS20-L180CS	20	19,6	20	0°	180	109,1	130,6	136,6	138,6	1	
48174019	PXMZ-C20TP25-LL200CS	20	19,6	25	1,1°	200	140	161,5	167,5	169,5	2	
48174020	PXMZ-C25SS25-L200CS	25	24	25	0°	200	96,6	124,1	131,6	-	1	

Accessories

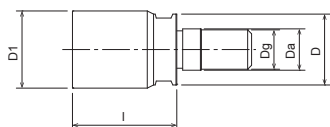


Spanner

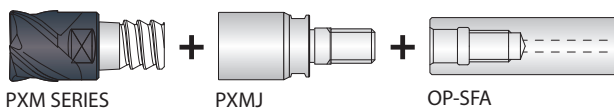
EDP	Designation	Proper head ø	Recommended tightening torque	Price
7801890	PXMP8-10	ø 12 ~ ø 14	12 Nm	
7801891	PXMP13-16	ø 16 ~ ø 18	30 Nm	
	PXMP13-16	ø 20 ~ ø 22	50 Nm	
7801892	PXMP21	ø 25	60 Nm	

PXMJ

- Joint
- Take Adapter
- Adattatore
- Adaptateur
- Ortaklik
- Adapter
- Adapter
- Junta
- Адаптер
- Adapter



EDP	Designation	Proper head \varnothing	D1	Da	Dg	l	D	Spanner	Price
7801893	PXMJ-C12SF06	12	11,7	6,5	6	18	11	PXMP8-10	
7801894	PXMJ-C16SF08	16	15,7	8,5	8	21,8	14,5	PXMP13-16	
7801895	PXMJ-C20SF10	20	19,6	10,5	10	26,5	18	PXMP13-16	
7801896	PXMJ-C25SF12	25	24	12,5	12	34	23	PXMP21	



By combining a joint holder (PXMJ) with the shank holder (OP-SFA) you have, it is possible to use the PXM series



Conditions

PXNL/PXNH

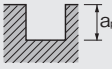
Side milling - Konturfräsen - Contornatura - Coutournage / Semi-finishing - Semi-finitura - Semi-finition - Semi-finition - Kenar frezeleme - Sidefræsning - Valsfræsning - Contorneado - Боковое фрезерование / Sletfræsning - Finfræsning - Acabado - Полуцисттовая - Frezowanie boczne

Ø	CAST IRON FC250		CARBON STEEL		ALLOY STEEL		HARDENED STEEL PREHARDENED STEEL		STAINLESS STEEL SUS304	
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)
12	2.390	600	3.180	700	2.650	440	2.390	290	2.120	230
16	1.790	620	2.390	720	1.990	450	1.790	300	1.590	240
20	1.430	660	1.910	760	1.590	480	1.430	310	1.270	250
25	890	450	1.270	560	1.020	340	890	220	760	170
Depth of cut	ap		ae		ap		ae			

L/D = 3,5 or less

PXNL/PXNH

Slotting - Nutenfräsen - Per scanalature profonde - Rainurage - Slot kesme
Skæredata - Skärdata - Ranurado - Фрезерование пазов - Frezowanie rowków

Ø	CAST IRON FC250		CARBON STEEL		ALLOY STEEL		HARDENED STEEL PREHARDENED STEEL		STAINLESS STEEL SUS304	
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)
12	1.860	300	2.650	370	2.120	220	1.860	140	1.590	110
16	1.390	320	1.990	400	1.590	240	1.390	150	1.190	120
20	1.110	360	1.590	450	1.270	270	1.110	170	950	130
25	760	280	1.150	370	890	210	760	130	640	100
Depth of cut	ap=0,5D									

L/D = 3,5 or less

PXSE

Side milling - Konturfräsen - Contornatura - Coutournage / Semi-finishing - Semi-finitura - Semi-finition - Semi-finition - Kenar frezeleme - Sidefræsning - Valsfræsning - Contorneado - Боковое фрезерование / Sletfræsning - Finfræsning - Acabado - Полуцисттовая - Frezowanie boczne

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304-SKD (~45HRC)		HARDENED STEEL TITANIUM ALLOY STEELS (45~55HRC)		HEAT STEEL INCONEL [®]			
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)		
12	3.180	760	2.650	640	1.700	400	1.700	350	650	100		
16	2.390	570	1.950	470	1.250	300	1.250	250	500	80		
20	1.910	460	1.550	370	1.000	250	1.000	200	400	65		
25	1.530	370	1.240	300	800	200	800	160	320	50		
Depth of cut	ap		ae		ap		ae		ap		ae	
	0,5Dc		0,15Dc		0,5Dc		0,1Dc		0,5Dc		0,05Dc	

L/D = 3,5 or less

PXSE

Slotting - Nutenfräsen - Per scanalature profonde - Rainurage - Slot kesme
Skæredata - Skärdata - Ranurado - Фрезерование пазов - Frezowanie rowków

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304-SKD (~45HRC)		HARDENED STEEL TITANIUM ALLOY STEELS (45~55HRC)		HEAT STEEL INCONEL [®]	
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)
12	2.500	500	1.550	300	1.300	250	1.300	250	650	100
16	1.850	350	1.150	250	1.000	200	1.000	200	500	80
20	1.500	300	950	200	750	160	750	160	400	65
25	1.200	240	760	160	600	130	600	130	320	50
Depth of cut	ap ≤ 0,35 Dc				ap ≤ 0,3 Dc		ap ≤ 0,2 Dc		ap ≤ 0,1 Dc	

L/D = 3,5 or less

Conditions

PXSM

Side milling - Konturfräsen - Conturnatura - Coutournage / Semi-finishing - Semi-finitura - Semi-finition - Semi-finition - Kenar frezeleme - Sidefræsning - Valsfræsning - Contorneado - Боковое фрезерование / Sletfræsning - Finfræsning - Acabado - Полулистовая - Frezowanie boczne

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304-SKD (~45HRC)		HARDENED STEEL TITANIUM ALLOY STEELS (45~55HRC)		HEAT STEEL INCONEL	
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)
12	4.750	1.750	3.950	1.150	3.150	950	2.650	800	1.550	350
16-6F	3.550	1.310	2.950	860	2.350	710	1.950	600	1.150	260
16-8F	3.550	1.750	2.950	1.150	2.350	950	1.950	800	1.150	350
20	2.850	1.750	2.350	1.150	1.900	950	1.550	800	950	350
25	2.280	1.400	1.880	920	1.520	760	1.240	640	760	280
Depth of cut	ap		ae		ap		ae		ae	
	≤ 0,5Dc		≤ 0,05Dc		≤ 0,5Dc		≤ 0,02Dc		≤ 0,3Dc	

L/D = 3,5 or less

PXRE

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		HARDENED STEEL PREHARDENED STEEL SKD-NAK80-HPM50		HARDENED STEEL (45~55HRC)		HARDENED STEEL (55~60HRC)			
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)		
12	5.800	10.600	4.000	6.500	3.200	4.900	2.700	3.300	2.300	2.200		
16	4.000	11.900	3.000	7.700	2.400	5.900	2.000	3.900	1.700	2.700		
20	3.200	9.550	2.400	6.500	1.900	4.900	1.600	3.300	1.400	2.200		
Depth of cut	ap				ae				ap		ae	
	0,1 x R				0,3Dc				0,1 x R		0,3Dc	

Contour milling L/D = 3,5 or less

PXDR-P

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304S-SKD (~45HRC)		HARDENED STEEL (45~55HRC)	
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)
12	3.980	2.980	3.980	2.390	3.980	1.790	3.980	1.190
16	2.980	2.240	2.980	1.790	2.980	1.340	2.980	900
20	2.390	1.790	2.390	1.430	2.390	1.070	2.390	720
Depth of cut	ap		ae		ap		ae	
	0,05 Dc		0,25Dc		0,03 Dc		0,25Dc	

Contour milling L/D = 5 or less

PXDR-N

Ø	ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304S-SKD (~45HRC)		HARDENED STEEL SUS304S-SKD (45 ~ 55HRC)		HARDENED STEEL (55 ~ 60HRC)	
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)
12	3.980	2.980	3.180	1.910	2.650	950	2.650	800
16	2.980	2.240	2.390	1.430	1.990	720	1.990	600
20	2.390	1.790	1.910	1.150	1.590	570	1.590	480
Depth of cut	ap		ae		ap		ae	
	0,03 Dc		0,25Dc		0,02 Dc		0,2 Dc	

Contour milling L/D = 5 or less



Conditions

PXBE-P

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304-SKD (~45HRC)		HARDENED STEEL TITANIUM ALLOY STEEL (45~55HRC)		
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	
12	3.980	1.790	3.180	1.430	2.650	1.190	2.650	800	
16	2.980	1.340	2.390	1.070	1.990	900	1.990	600	
20	2.390	1.070	1.910	860	1.590	720	1.590	480	
Depth of cut			Dc	ap	Pf				
			Ø 12	0,07 Dc	0,15 Dc				
			Ø 16, Ø 20	0,1 Dc					
						ap ≤ 0,8 mm			

Contour milling L/D = 5 or less

PXBE-N

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304-SKD (~45HRC)		HARDENED STEEL TITANIUM ALLOY STEELS (45~55HRC)		HARDENED STEEL (55~60HRC)	
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)
12	6.630	2.980	6.630	2.980	5.310	1.910	3.980	1.190	2.650	400
16	4.970	2.240	4.970	2.240	3.980	1.430	2.980	900	1.990	300
20	3.980	1.790	3.980	1.790	3.180	1.150	2.390	720	1.590	240
Depth of cut			Dc	ap	Pf					
			Ø 12	0,07 Dc	0,15 Dc					
			Ø 16, Ø 20	0,05 Dc						
		ap ≤ 1 mm				ap ≤ 0,8 mm		ap ≤ 0,5 mm		

Contour milling L/D = 3,5 or less

PXBM

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304-SKD (~45HRC)		HARDENED STEEL TITANIUM ALLOY STEEL (45~55HRC)		HARDENED STEEL (55~60HRC)	
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)
12	6.600	3.900	6.600	3.900	5.300	2.500	3.950	1.500	2.600	550
16	4.950	4.500	4.950	4.500	3.950	2.900	2.950	1.800	1.900	600
20	3.950	3.500	3.950	3.500	3.150	2.300	2.350	1.500	1.600	500
Depth of cut			ap		Pf					
			0,02 Dc		0,05 Dc					

Contour milling L/D = 3,5 or less

PXVC

Side milling - Konturfräsen - Contornatura - Coutournage / Semi-finishing - Semi-finitura - Semi-finition - Semi-finition - Kenar frezeleme -

Sidefræsning - Valsfræsning - Contorneado - Боковое фрезерование / Sletfræsning - Finfræsning - Acabado - Получистовая - Frezowanie boczne

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304-SKD (~45HRC)		HARDENED STEEL TITANIUM ALLOY STEEL (45~55HRC)		
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	
12	1.860	740	1.590	640	1.330	530	1.060	320	
14	1.590	640	1.360	550	1.140	450	910	270	
16	1.390	560	1.190	480	990	400	800	240	
18	1.240	500	1.060	420	880	350	710	210	
20	1.110	450	950	380	800	320	640	190	
22	1.010	410	870	350	720	290	580	170	
25	890	360	760	310	640	250	510	150	
Depth of cut			ap		ae				
			0,8 Dc		0,005 Dc				

L/D = 5 or less

Conditions














PXVC

Slotting - Nutenfräsen - Per scanalature profonde - Rainurage - Slot kesme
Skæredata - Skärdata - Ранурдо - Фрезерование пазов - Frezowanie rowków

Ø	MILD STEEL - CARBON STEEL CAST IRON SS400 - S55C - FC250 (~750N/mm ²)		ALLOY STEEL TOOL STEEL SCM-SKT-SKS-SKD (~30HRC)		STAINLESS STEEL HARDENED STEEL SUS304-SKD (~45HRC)		HARDENED STEEL TITANIUM ALLOY STEEL (45~55HRC)	
	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)
12	3.980	800	3.180	640	2.650	530	1.990	400
14	3.410	680	2.730	550	2.270	450	1.710	340
16	2.980	600	2.390	480	1.990	400	1.490	300
18	2.650	530	2.120	420	1.770	350	1.330	270
20	2.390	480	1.910	380	1.590	320	1.190	240
22	2.170	430	1.740	350	1.450	290	1.090	220
25	1.910	380	1.530	310	1.270	250	950	190
Depth of cut	ap ≤ 0,5Dc		ap ≤ 0,4Dc		ap ≤ 0,3Dc		ap ≤ 0,3Dc	

L/D = 3,5 or less

Icons

Icons	EN	DE	IT	FR	DA	SV	ES	RU	TR	PL
	Face milling	Planfräsen	Spianatura	Surfaçage	Planfræsning	Planfräsning	Fresado plano	Фрезерование плоскостей	Yüzey frezeleme	Frezowanie czolowe
  	Side milling	Konturfräsen	Fresatura laterale	Fraisage contournage	Sidefræsning	Valsfräsning	Contorneado	Боковое фрезерование	Kenar frezeleme	Frezowanie boczne
  	Slotting	Nutenfräsen	Per scanalature profonde	Rainurage	Skæredata	Skärdata	Ranurado	Фрезерование пазов	Slot kesme	Frezowanie rowków
	Contouring	Konturfräsen	Contornatura	Contournage	Konturfræsning	Konturfräsning	Contorneado	фрезерования	Kontür dönme	Frezowanie konturowe
 	Profile milling	Profilfräsen	Profilatura	Usinage de forme	Profil fræsning	Profilfräsning	Copiado de figura	Профильное фрезерование	Profil frezeleme	Frezowanie profilowe
	Boring	Bohren	Foratura	Perçage	Boring	Borning	Taladrado	Сверление	Delme	Wiercenie
 	Plunging	Tauchfräsen	Fresatura in spinta	Plongée	Plunging	Plunging	Penetración axial	Плунжерное фрезерование	Dalma	Frezowanie wglębne - plunging



shaping your dreams

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