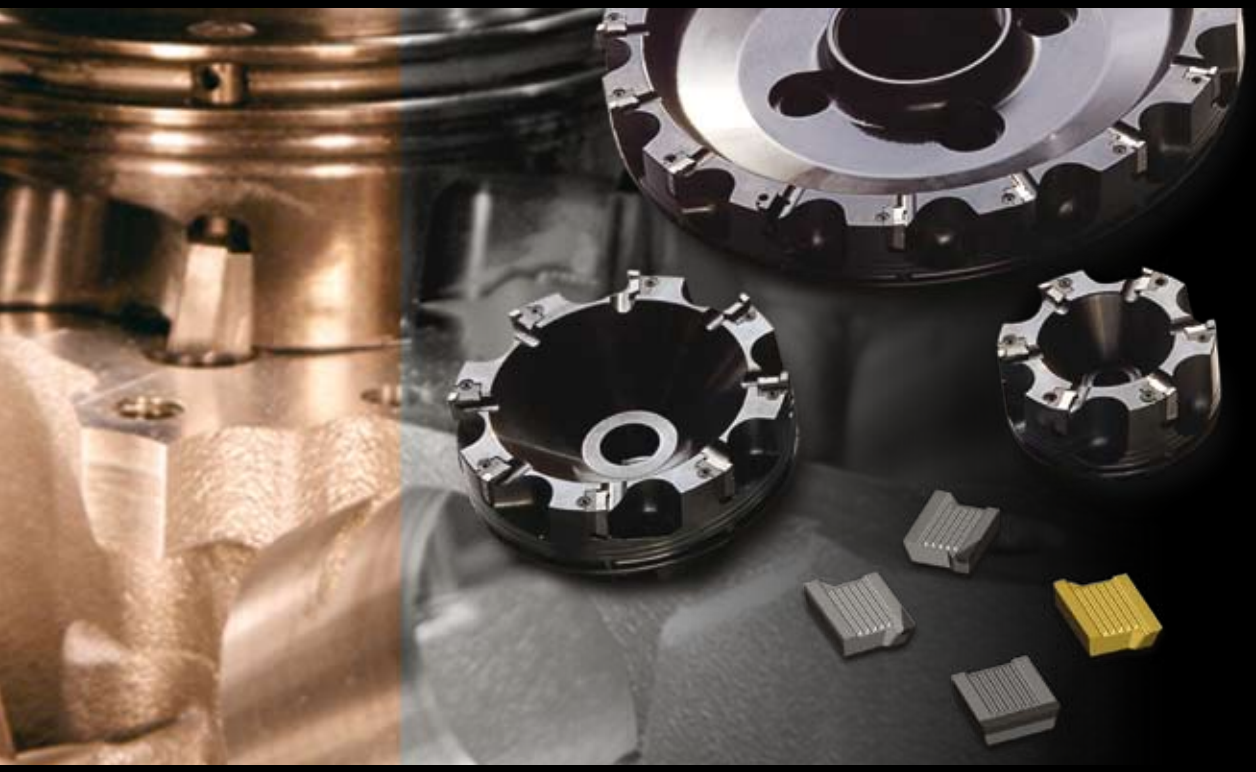
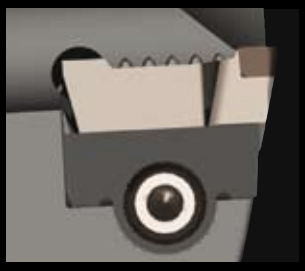


VFLASH™



- *Matching serrated insert and housing with an innovative design!*
- *Easy and accurate set-up!*

Safety

FACE MILLS

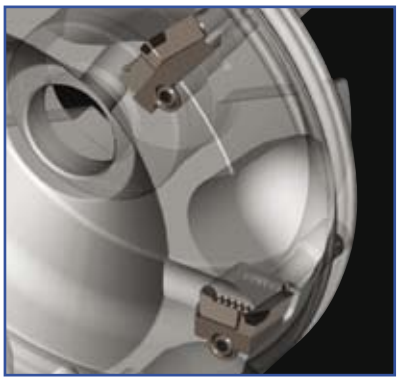
- **Diameters:** 50 mm to 315 mm
- **Max. depth of cut:** 10 mm
- **Geometry:** pos/pos
- **Corner configurations:** r 0.4 mm, r 0.8 mm, ch 0.8x45°
- **Lead angle:** 90°
- **Applications:** rough & finish aluminum and non-ferrous; finish cast iron
- **Wiper inserts:** available
- **Materials:** aluminum, non-ferrous, bi-metal, cast iron

VFLASH™

The VFlash advantage

Easy and accurate set-up

- ➤ Matching serrated pocket and insert design eliminates misalignment
- ➤ Easy to lock down and adjust - axial run-out to within 1-2 microns
- ➤ No special wrenches required
- ➤ Reduce set-up time - in the crib or on the machine



Inserts are well-protected and precisely located!

Performance

- ➤ High-speed capability up to 7 000 m/min
- ➤ Serrated design resists centrifugal forces and maintains precision insert location
- ➤ Heat-treated alloy steel body prevents chip erosion
- Stable design minimizes deflection
- Long service life
- ➤ Higher metal removal rates and lower cost-per-part

Versatile

- ➤ Roughing and finishing of all aluminum alloys with full-length or tipped PCD inserts
- ➤ Finish machining of cast iron and bi-metal machining
- ➤ Adjustable wiper option for excellent finish and flatness
- ➤ Coarse and fine pitch designs standard
- ➤ Available PCD and CBN inserts

Guaranteed by the best specialists in machining

The Safety Team

Experts in machining that propose you:

- ➤ Simulation of tools performances
- ➤ Projected cost analysis with the tools pay off
- ➤ Tests without any disturbance in your production
- ➤ Run-off and validation of the expected gains

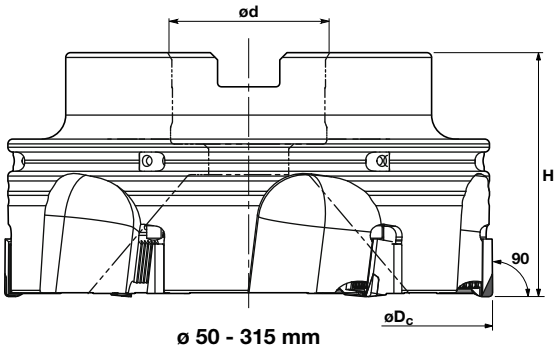
Challenge our experts

Make us prove it!

Contact us:
Tel.: 01 46 10 54 00

V650 - Aluminium & Cast Iron

Milling cutter program:



ø 50 - 315 mm

3° = Positive radial rake
8° = Positive axial rake

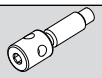
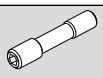
➤ Coarse pitch

Reference	Dimensions (mm)				Maximum rpm	Weight (kg)	Mount style
	D_c	Z	d	H			
V650A 12 M050 22 04R	50	4	22	40	35 000	0.34	22A
V650A 12 M063 22 05R	63	5	22	40	31 000	0.53	22A
V650A 12 M080 27 06R	80	6	27	50	28 000	0.98	27A
V650A 12 M100 32 06R	100	6	32	50	25 000	1.75	32A
V650A 12 M125 40 08R	125	8	40	63	22 000	2.62	40A
V650A 12 M160 40 10R	160	10	40	63	20 000	4.33	40C1
V650A 12 M200 60 12R	200	12	60	63	17 000	7.05	60C1
V650A 12 M250 60 16R	250	16	60	63	15 000	9.90	60C1
V650A 12 M315 60 20R	315	20	60	80	14 000	18.38	60C2

➤ Fine pitch

Reference	Dimensions (mm)				Maximum rpm	Weight (kg)	Mount style
	D_c	Z	d	H			
V650A 12 M050 22 06R	50	6	22	40	35.000	0.34	22A
V650A 12 M063 22 07R	63	8	22	40	31.000	0.53	22A
V650A 12 M080 27 09R	80	9	27	50	28.000	0.98	27A
V650A 12 M100 32 12R	100	12	32	50	25.000	1.75	32A
V650A 12 M125 40 15R	125	15	40	63	22.000	2.62	40A
V650A 12 M160 40 18R	160	18	40	63	20.000	4.33	40C1
V650A 12 M200 60 24R	200	24	60	63	17.000	7.05	60C1
V650A 12 M250 60 30R	250	30	60	63	15.000	9.90	60C1
V650A 12 M315 60 36R	315	36	60	80	14.000	18.38	60C2

Spare parts

Diameter (D_c)	 Wedge	 Adjustment screw	 Clamping screw	 Key
	Reference	Reference	Reference	Reference
50 - 315	DCP 4211	DVZ 4213	DVD 4212	DIN 911 (M2 x 100)

Ordering example: V650A 12 M315 60 36R

Insert program:

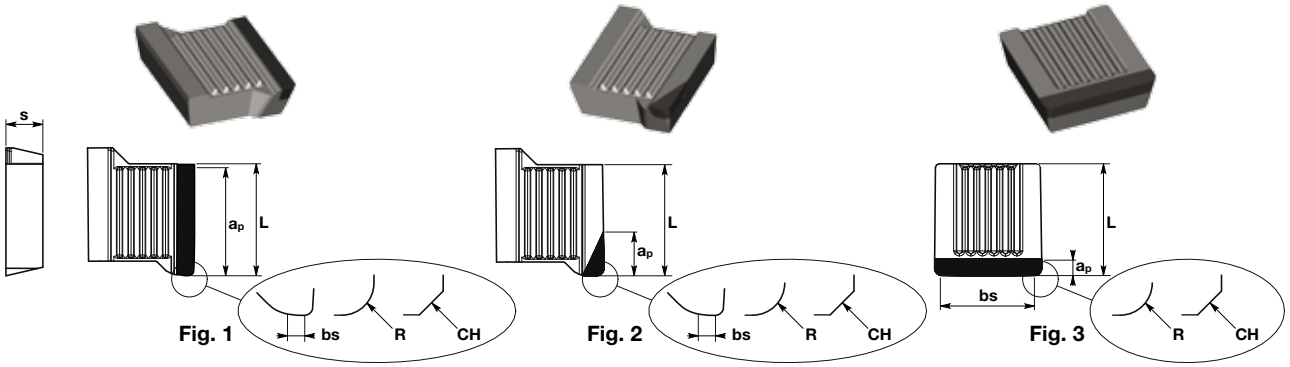


Fig. 1 Fig. 2 Fig. 3

➤ PCD

Reference	Fig.	Dimensions (mm)					Hand of tool	Grades	
		L	s	R/CH	bs	a_p max		VPD720	VPB125
XOEN 12 T3 04R-F	2	12	4	0.4	-	3.3	R	✓	
XOEN 12 T3 04L-F	2	12	4	0.4	-	3.3	L	✓	
XOEN 12 T3 04 ZZN-H	3	12	4	0.4	10.8	0.76	N	✓	
XOEN 12 T3 08R-F	2	12	4	0.8	1.2	3.3	R	✓	
XOEN 12 T3 08L-F	2	12	4	0.8	1.2	3.3	L	✓	
XOEN 12 T3 08 ZZN-H	3	12	4	0.8	10.1	0.76	N	✓	
XOEN 12 T3 08R-H	1	12	4	0.8	1.0	10	R	✓	
XOEN 12 T3 AZ 08 R-F	2	12	4	45° X 0.8	1.2	3.3	R	✓	
XOEN 12 T3 AZZ08N-H	3	12	4	45° X 0.8	10	0.76	N	✓	
XOEN 12 T3 AZ 08 R-H	1	12	4	45° X 0.8	1.0	10	R	✓	

➤ CBN

Reference	Fig.	Dimensions (mm)					Hand of tool	Grades	
		L	s	R/CH	bs	a_p max		VPD720	VPB125
XOEN 12 T3 08R-E	2	12	4	0.8	1.26	3.3	R		✓
XOEN 12 T3 08ZZN-HE	3	12	4	0.8	10	0.76	N		✓

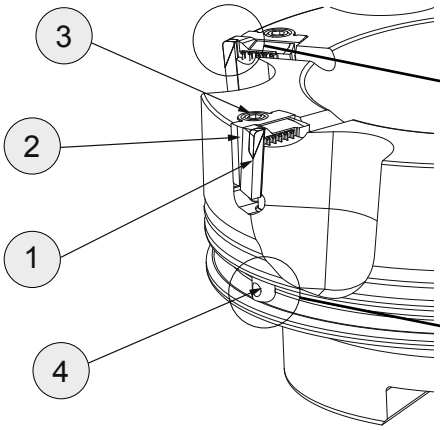
✓: Article which can be ordered
Ordering example: XOEN 12 T3 04R-F D720

Cutting data:

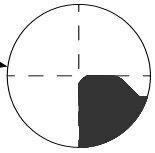
Material			Hardness	Cutting speed (m/min)		Tooth feed (mm)
				CBN	PCD	
				VPB125	VPD720	
N	ALUMINIUM & NON FERROUS MATERIALS	Aluminium < 7% Si			600-4500	0.08-0.25
		Aluminium 7% - 12% Si			450-3000	0.08-0.25
		Aluminium >12% Si			300-900	0.08-0.25
		Non-ferrous			300-900	0.05-0.25
K	CAST IRONS	Grey cast iron	180-260 BHN	550-1500	Bi-Metal <450	0.10-0.30
			220-260 BHN	450-900	Bi-Metal <450	0.10-0.30

V650 - Aluminium & Cast Iron

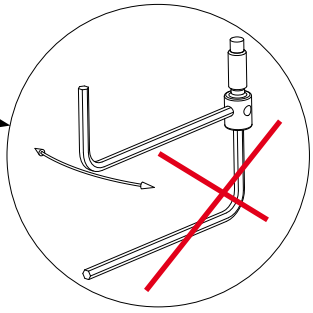
Adjustment of inserts to dimensions of use by the customer:



① Insert
② Clamping wedge
③ Wedge screw
④ Axial adjustment screw



Axial adjustment with optical sight



Do not use the recess;
use the radial holes

➤ Test equipment:

- Optical presetter.

➤ Adjustment operation:

1 - Reception of milling cutter and first adjustment.

1.1 - Unscrew the axial adjustment screws (4) and the wedge screws (3).
1.2 - Clean the housings to remove any impurity.
1.3 - Position the inserts (1) in their housing.
1.4 - Pre-tighten the inserts (1) by tightening the wedge screw slightly (3).
1.5 - Approach the required cutting height (0.1 mm below) by screwing the axial adjustment screw (4) with the radial holes.
1.6 - Attach the inserts (1) by tightening the wedge screw (3) to a final torque of 2 N.m.
1.7 - Adjust all the inserts (1) to the final height by screwing the axial adjustment screw (4).

2 - Replacement of inserts

2.1 - Unscrew the axial adjustment screw (4) by half a turn using the radial holes before removing the insert (1) to be replaced to allow the adjustment of the new insert.
2.2 - Unscrew the wedge screw (3) by a few turns and remove the insert (1) to be replaced.
2.3 - Replace the insert (1) and repeat operations 1.2 to 1.7.

Applications:

Main Application Areas
Aluminum castings, high and low silicon content
Dura and extruded aluminum
Magnesium alloys
Zinc alloys
Brass, bronze and other copper alloys
Pure soft metals

Secondary Application Areas
Bi-metal materials aluminum - cast iron and steel
Hardened steel and cast iron (finishing with CBN)
Graphite
Plastics (nylon, Teflon, polypropylene)
Composite plastics with glass and carbon fibers
Wood and fiber board
Biological materials

Industry Applications	
Automotive	Engine block , heads, transmission housing and components
Aerospace	Frame and body parts
Mechanical Engineering	Any machining of aluminum, brass, copper and non-ferrous materials
Electrical and Electronic	Housings, frames and radiators
Metallurgical	Aluminum blanks, copper electrodes and other electrolytic materials

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