



FPPC



PORTAL CENTER TOP GANTRY TYPE



FPPC BASIC PARAMETRES

BASIC PARAMETRES OF THE MACHINE

		FPPC 200	FPPC 250
Stroke of X-axis	mm	2 500 - 50 000	2 500 - 50 000
Stroke of Y-axis	mm	2 000	2 500
Stroke of Z-axis	mm	1 500 (1 800)	1 500 (1 800)
Length of table	mm	3 100 - 52 000	3 100 - 52 000
Width of table	mm	2 500	2 500
Load of table	kg/m ²	5 000	5 000
Distance between columns	mm	3 080	3 575
Feeds X,Y,Z	mm/min	20 000	20 000
Max. diameter of turning table	mm	2 500	2 500

BASIC CONCEPTION OF THE MACHINE

Portal type machining center FPPC is designed as a very rigid machine, conception with moving crossbeam and fixed table.

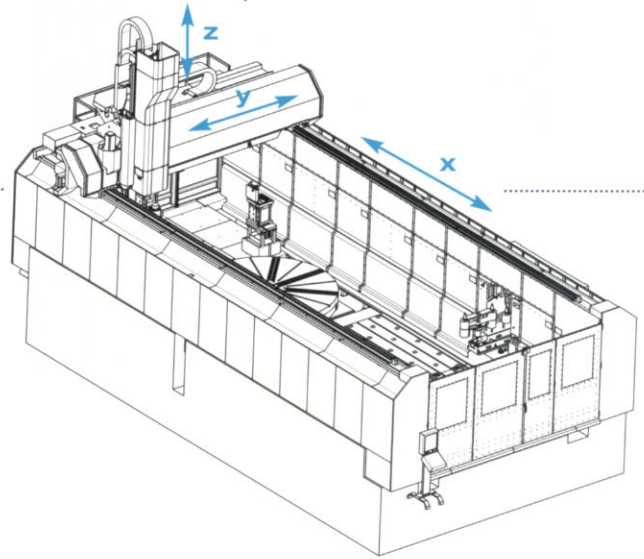
Basic components of the machine are made of cast iron which ensures a high dynamic and thermal stability of the machine and precision machining.

Thanks to the modular design of the machine we can make a wide range of variations of FPPC machine according to customer's requirements.





FPPC



FPPC 300	FPPC 350	FPPC 400	FPPC 500	FPPC 600
3 200 - 50 000	3 200 - 50 000	4 000 - 50 000	6 000 - 50 000	6 000 - 50 000
3 000	3 500	4 000	5 000	6 000
1 500 (1 800)	1 500 (1 800)	1 500 (1 800)	1 500 (1 800)	1 500 (1 800)
3 100 - 52 000	3 100 - 52 000	3 100 - 52 000	6 200 - 52 000	6 200 - 52 000
3 200	3 750	3 750	4 800	5 700
5 000	5 000	5 000	5 000	5 000
4 070	4 565	5 060	6 050	7 040
20 000	20 000	20 000	20 000	20 000
3 000	3 500	4 000	5 000	6 000



- 1 RIGIDITY
- 2 ACCURACY
- 3 UNIVERSALITY



FPPC HEADSTOCKS

VERTICAL SPINDLES AND ELECTROSPINDLES

		VM-5/800	VM-8/160	VE-8/445	VE-15/300
Power	kW	27	27	93	63
Max. torque	Nm	800	160	445	300
Max. speed	rpm	5 000	8 000	8 000	15 000
Nominal speed	rpm	322	1 610	2 000	2 000
Tool taper		ISO 50	ISO 50	HSK-A 100	HSK-A 100

CONTINUOUSLY DRIVED HEADS

		HFE-24/35	HFE-20/119	HFE-16/130	HFE-15/167
Power	kW	39	25	34	70
Max. torque	Nm	35	119	130	167
Max. speed	rpm	24 000	20 000	16 000	15 000
Nominal speed	rpm	12 000	2 000	2 500	4 000
Tool taper		HSK-A 63	HSK-A 63	HSK-A 63	HSK-A 100

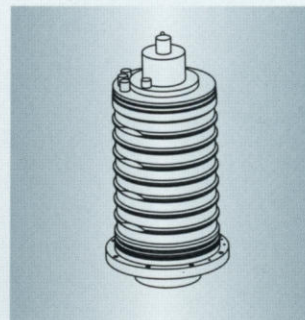
INDEXED HEADS

		HFM-5/800	HFM-3/1200	HFM-1,5/400	HFM-5/1000
Power	kW	30	37	17	30
Max. torque	Nm	800	1 200	400	1 000
Max. speed	rpm	5 000	3 000	1 500	5 000
Nominal speed	rpm	358	294	310	286
Tool taper		ISO 50	ISO 50	ISO 50	ISO 50
Positioning	°	1	1	2,5	1
Number of axes		2	2	1	1

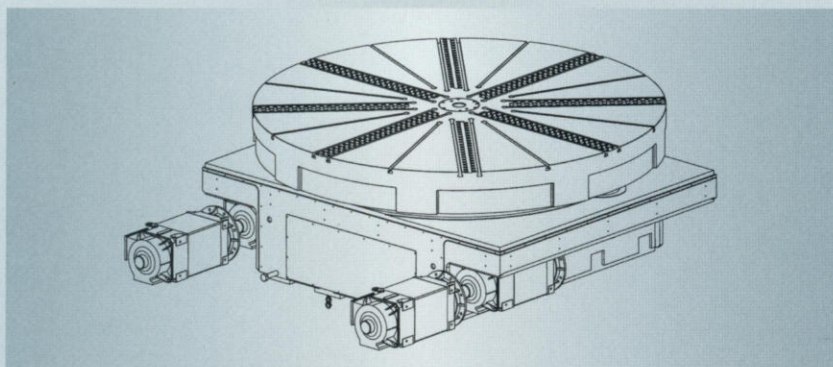
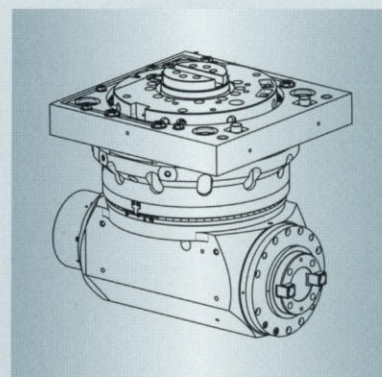
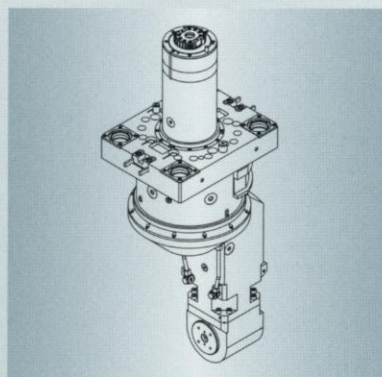
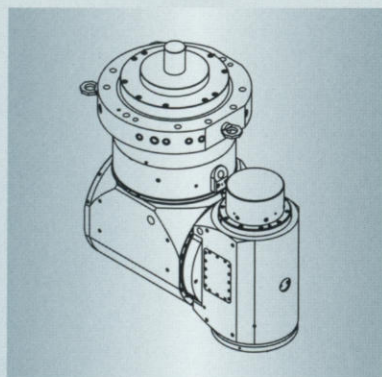
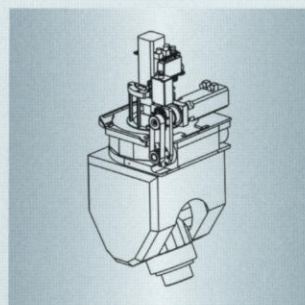
ROTARY TABLES

		D1600/8T	D2200/20T	D3500/40T	D5000/80T
Diameter of table	mm	1 600	2 200	3 500	5 000
Max. speed - positioning	rpm	5	5	5	5
Max. speed - turning	rpm	400	100	75	60
Max. load - positioning	t	8	20	40	80
Max. load - turning	t	5	20	40	80

VE-12/210	VE-15/167	VE-16/130	VE-24/35
40	70	34	39
210	167	130	35
12 000	15 000	16 000	24 000
1 820	4 000	2 500	12 000
HSK-A 100	HSK-A 100	HSK-A 63	HSK-A 63



HFET-10/173	HFE-12/210	HFE-15/300	HFE-8/445
40	45	63	93
173	210	300	445
10 000	12 000	15 000	8 000
2 200	1 820	2 000	2 000
HSK-T 100	HSK-A 100	HSK-A 100	HSK-A 100



All tables can be made
as turning or positioning

RTP - Table positioning
RTK - Table turning



FPPC ACCESSORIES

STANDARD ACCESSORIES

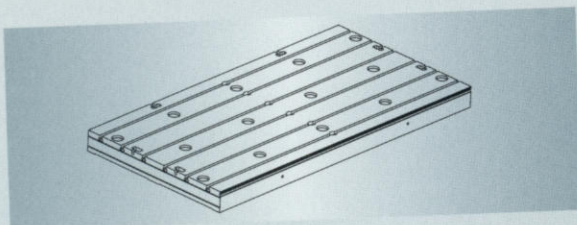
- ▶ hand wheel
- ▶ digital feeds of axes and spindle
- ▶ direct measuring at all axes
- ▶ balancing of Z-axis
- ▶ thermal stabilization of all main parts of the machine
- ▶ external tool cooling
- ▶ chip conveyor (longitudinal and transverse)

- ▶ complete covering of working space (without roof)
- ▶ electric equipment 400V/50Hz
- ▶ air-conditioned electrocabinet
- ▶ automatic lubrication
- ▶ anchoring material
- ▶ remote diagnostics - teleservice
- ▶ complete accompanying documentation in the required language

OPTIONAL ACCESSORIES

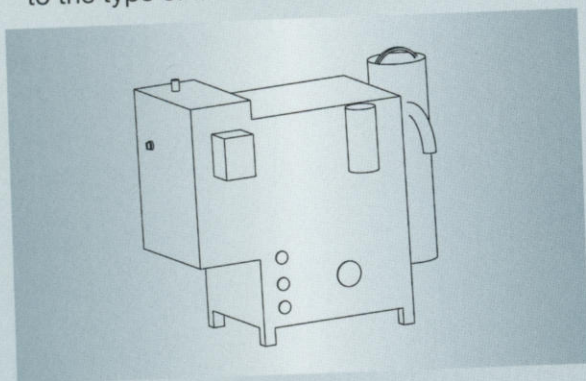
Clamping surface

- ▶ a choice of several types
- ▶ cast iron plates (standard recommended accessories)
- ▶ clamping device (including design, manufacture and adjustment)
- ▶ vacuum clamping plates
- ▶ magnetic clamping plates



Internal tool cooling

- ▶ additional unit to the basic external tool cooling
- ▶ different types of cooling unit, according to the type of filtration and pressure

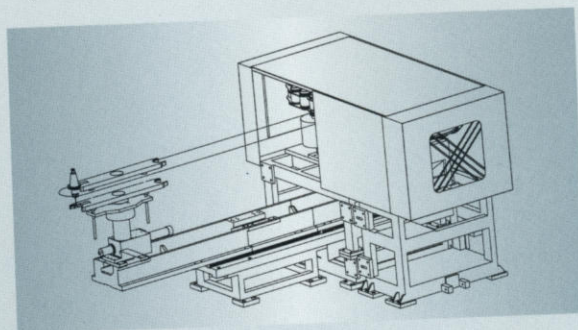


Probes

- ▶ tool touch or contactless (laser) probes
- ▶ signal transmission via cable or infrared beam
- ▶ workpiece touch probes with radio signal transmission
- ▶ Renishaw, Heidenhain, Blum Novotest, Etc.

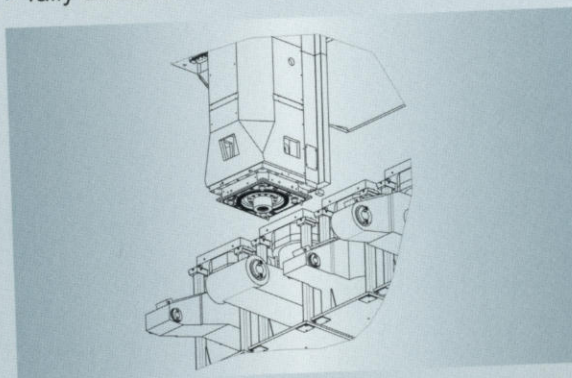
Automatic tool change

- ▶ including tool magazine
- ▶ optional capacity (30 - 120 tools)
- ▶ taper standard according to chosen spindle (ISO 50, HSK 100, HSK 63)



Automatic head change

- ▶ possible change of milling, turning and special heads
- ▶ fully automatic changing process



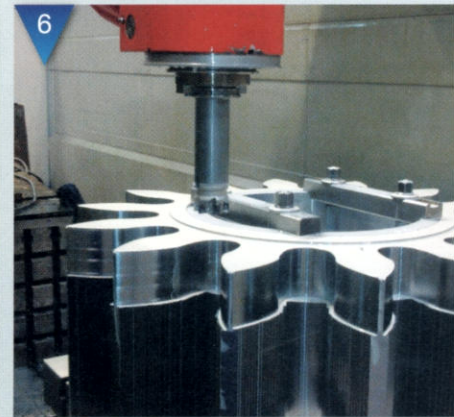
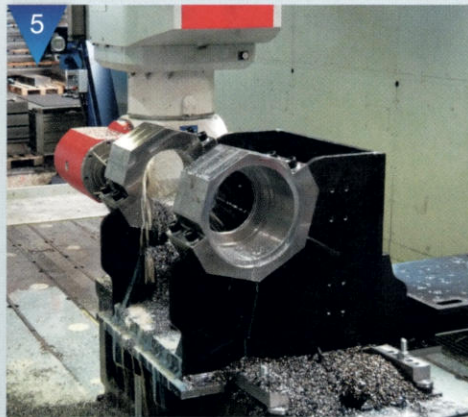
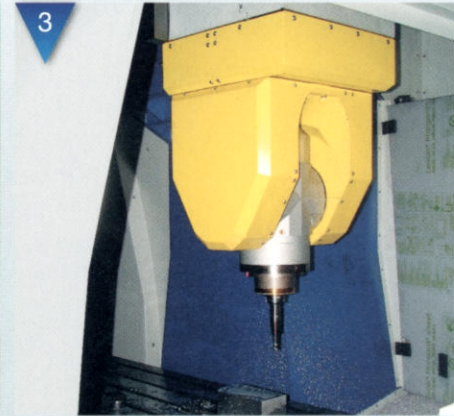
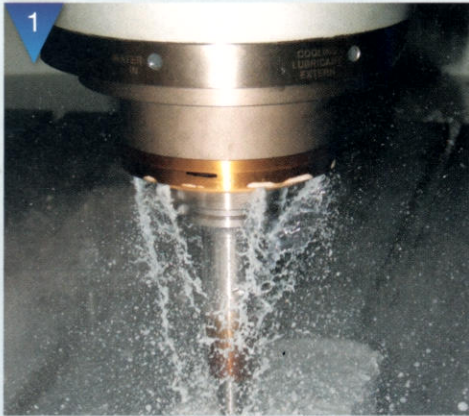
Control system

- ▶ Heidenhain iTNC 530, Siemens Sinumerik 840D, Fanuc

Other variants can be offered after consultation with the manufacturer.



FPPC APPLICATION



1 Electospindle

2 Indexed head

3 Continuously driven head

4 Machining of aluminium parts for aerospace

5 Machining of big diameter by interpolation

6 Machining of iron pinion

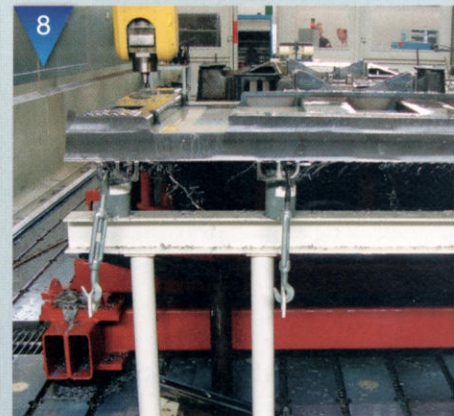


7 Solid aluminum profile milling - a form for injection molding

8 Machining of bogie frame for train undercarriage

9 Milling of side part for production of wagons - sandwich aluminum workpiece length of 25 meters

10 Complete machining of cast iron machine bed in one clamping





REFERENCES

www.tyc.cz

► Our costumers and users of the **FPPC** machines



ŠMERAL



**PRVNÍ ŽELEZÁŘSKÁ
SPOLEČNOST Kladno**

ŠKODA



**TĚŽKÉ
STROJÍRENSTVÍ
PLZEŇ**



ŠKODA



LET
Aircraft Industries



ГОСУДАРСТВЕННОЕ ОБЪЕДИНЕНИЕ
УРАЛТРАНСМАШ



► AWARDS

2007 - Excelent
product of the year
- Design Award

2009 - Inovation
of the Year Award

2001 - IMT Brno
Gold Medal
FVP 120 CNC

2007 - IMT Brno
Gold Medal
FPPC 300/9 CNC

2011 - IMT Brno
Gold Medal
FVCT 180/2 CNC



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