

PICOMAX[®] 95

The all-rounder: 3 to 5 axis
precision machining



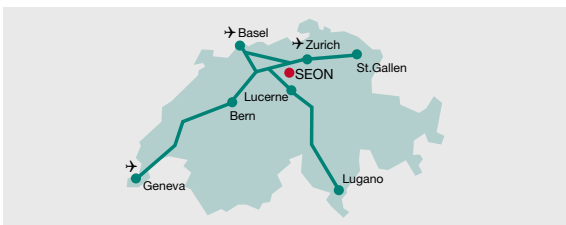
FEHLMANN: The Brand



Precision "Made in Switzerland" since 1930

Whether design, manufacturing, training, delivery, commissioning, or service and maintenance: FEHLMANN customers receive everything from a single source.

Each FEHLMANN product reflects the high quality standards applied to the entire production process. Energy consumption is taken into account early in the development process and the company's production is characterized by its sparing use of resources and lowest possible CO₂ emissions.



As a partner of the Blue Competence sustainability initiative and an ISO 14001 certified company, FEHLMANN strives to integrate sustainability into all aspects of the company. Our focus in this regard is on the entire life cycle of our machines, from their inception to their environmentally sound disposal. FEHLMANN already ensures minimal CO₂ emissions during the production process, as energy consumption is even considered during product development. FEHLMANN also participates in the renowned Switzerland-wide EnAW (Energy Agency for Industry) model for energy optimization.

FEHLMANN is renowned in the industry for its superior precision, good ergonomics, ease of handling and reliability. FEHLMANN's understanding of quality also means developing machines that satisfy current and future workshop requirements.

With FEHLMANN you stay one step ahead of the competition!
Your Precision Advantage.®

PICOMAX® 95 — the all-rounder: 3 to 5 axis precision machining

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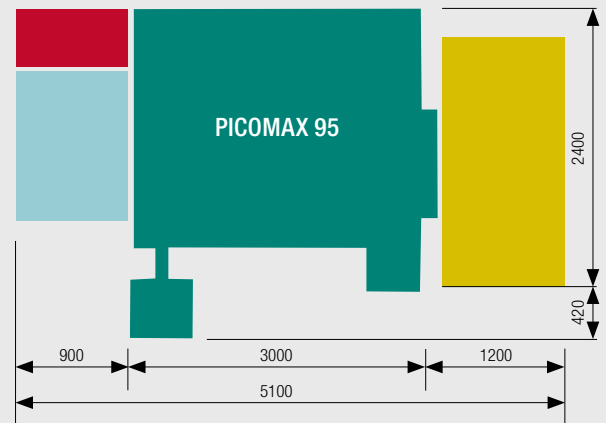


Extremely versatile

PICOMAX 95 for complex, cubic 5 axis as well as voluminous 3 axis parts.

The concept at a glance

- 5, 4 and 3 axis precision machining with perfect accessibility.
- Loading from the front during machining.
- Automation from two sides without restricted operation.
- The generous clamping surface enables complex 5 axis machining as well as voluminous 3D parts machining.



- Automation
- Coolant system
- PICOMAX 95
- Cooling unit

The optimized machine structure and powerful HSK-A63 motor spindle of the PICOMAX 95 unite rigidity, torque and dynamics.

This concept is especially designed for 5 axis machining with FEHLMANN dividing units. Of course, it can also be applied for pure 3 axis machining. On the generous clamping table, a 4th/5th axis, fully integrated into the controls, can be mounted at any time. Sufficient space still remains for machining large parts or utilizing a counter-point. Freely configurable automation can also be retrofitted at any time in order to expand the spectrum of usage, without diminishing machine accessibility. The generous tool changer is equipped with a chain magazine, containing 46 or 72 tools.

The lateral installation of the automation system allows accessibility to the machining area at all times. By using the unmanned night-shift hours, the machine capacity is increased and cycle times are reduced. Based on requirements, pallets of up to 400 × 400 mm can be automatically loaded and unloaded.



Machine design for 5 axis precision machining

Geometry and travel ranges are designed for 5 axis machining with the automatic dividing/swivelling unit FEHLMANN ATS 200. The machine is, of course, also perfect for simple 3 axis machining — the dividing/swivelling unit for 5 axis machining can be easily retrofitted at any time.



Perfectly accessible, even with automation

PICOMAX 95's sophisticated concept is space-saving and allows easy access to the spacious machining area — from the front and, for crane loading, from above. With lateral automation, the machine is easy to operate at any time without access restrictions.



The mounting surfaces of the machine's structural parts are scraped and, therefore, guarantee best possible geometries and high rigidity for maximum precision with immaculate surfaces.



Laser measurement

All machines are measured and optimized before delivery by means of laser and other state-of-the-art methods.

Development, manufacturing and installation: everything from one source

During development, all machine elements are already tested and optimized based on their future use.

Guideways, digital drives and motors have been designed and dimensioned in accordance with the latest requirements.

During production, all machine elements are tested for possible discrepancies by means of latest measuring methods. This guarantees optimal quality during installation.

After the entire process of installation and a predefined trial run, all machines are calibrated and audited by means of KGM and laser.

From development to production — everything in the same plant. Qualified and specialised personnel that actively thinks about and participates in the development of these processes ensures the FEHLMANN quality our customers are accustomed to.



Massive casting base, through high rigidity

The rigid base with its bed, vertical post and machine head are made of massive vibration-damping cast iron. The entire machine structure is subject to equal expansion coefficients and thermal conductivities.

Flexible 3 to 5 axis precision machining.



The automatic FEHLMANN dividing/swivelling units give you all the flexibility you need. The machine design and geometry of PICOMAX 95, with its generous Z travel, provide perfect conditions for this versatility.

In-house motor spindle fabrication

FEHLMANN motor spindles meet even the most demanding requirements — due to direct drive, these spindles ensure low vibration and high torque operation, thus assuring best surfaces and tool life.



Cutting edge spindle technology for the most demanding applications



These spindles are perfect for any challenging task — whether torque or rotational speed is required for HSC-cutting.

The heart of the PICOMAX 95 is the FEHLMANN HSK-A63 motor spindle, which is based on a proven concept. This spindle is available in various torque/rotational speeds. The active spindle cooling ensures optimum thermal stability. Larger as well as smaller tools can also be deployed for materials that are difficult to process.

The right spindle for each application

Depending on requirement and customer, the machines are available with a variety of FEHLMANN motor spindles — all made in-house at Fehlmann AG. For short power-up times, all spindles are equipped with high spindle acceleration. Depending on spindle type, position correction of the main spindle via a direct measurement system is included as standard or optional.



■ 14 000 rpm (HSK-A63)

The robust spindle for most applications.

■ 20 000 rpm (HSK-A63)

Thanks to the ideal blend of speed, torque and quiet low-vibration operation, ideal for all work, from roughing to fine finishing.

■ 24 000 rpm (HSK-A63)

With oil-air lubrication system for best thermal stability and precision at high performance in HDC and HSC milling.

Ergonomic design enables ease of access to all machine features

Short shutdown periods during changeover thanks to accessibility, good ergonomics and modularity.

A machine must be accessible and multifunctional. The PICOMAX 95 accomplishes these criteria in various areas.



The standard handwheel and the ergonomic height of the working table guarantee optimal ease of use.

Spindle, controls, workpiece and tool changer are arranged within easy reach of the operator.



Perfect lateral access as well

Automation for the PICOMAX 95 can easily be installed at any time. According to requirements, pallets of up to 400 × 400 mm can be automatically loaded and unloaded.



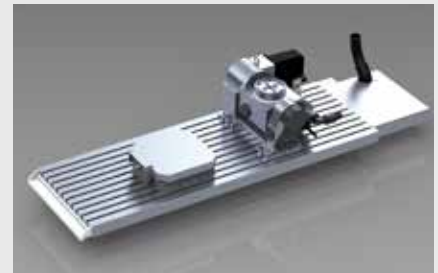
The large door simultaneously allows access to the machining area from the front and the top. This allows heavy parts to be lifted effortlessly with a crane into the machining area.



Multiple clamping



ATS 200 and bench vice



ATS 200 and UPC 320 × 20mm



ATS 200 and tailstock



AT 125 and bench vice

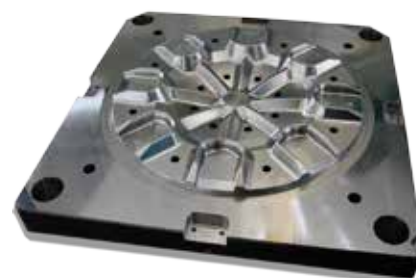


Highest performance in 3, 4 and 5 axis milling

Designed from the ground up for 5 axes

The FEHLMANN PICOMAX 95 has been designed from the ground up for cubic 5 axis machining. The basic version with 3 axis can easily be retrofitted at any time with the FEHLMANN ATS 200, fully integrated in the controls, for 4 or 5 axis machining.

With the long Z-traverse path it is possible to manufacture even bulky workpieces easily. Long parts or a swiveling bridge can be ideally stabilized with a tailstock. Direct measuring systems in all five axes, for highest workpiece precision, are standard equipment. Optimal displacement circle enables short clamping heights and short tool holders.



4 axis machining

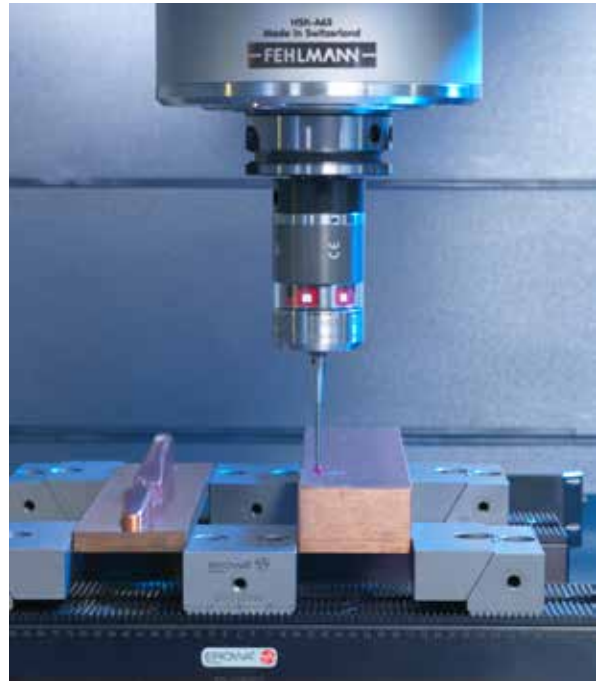
To be used horizontally with pneumatic-hydraulic spindle clamping. Ultracompact, high precision dividing unit for automatic dividing, circular and helical milling, etc.

AT 125 = 125 mm centre height

Controls and software: Simply versatile, from HSC to workshop programs

The fully digital Heidenhain control unit meets all workshop requirements. Its suitability ranges from processing simple mechanical parts that are programmed directly on the machine, up to complex 5 axis CAD/CAM program applications. Thanks to various built-in machining cycles developed by FEHLMANN, the proven and widely used control unit is perfectly attuned to PICOMAX 95.

- Features for 5 axis machining and rapid HSC milling are included as standard.
- Functions such as Tool Warm-up and an alignment cycle for the dividing head contribute to the high precision.
- Special control strategies and optimized path control with continuous movements ensure flawless surfaces and increased service life of the tools.
- Time-savings through short block processing times.
- Electronic handwheel for direct operation.
- Graphic support with contextual images and simulations enables faster and reliable programming.
- PDF documents and images can be easily viewed on the 19" control screen display.



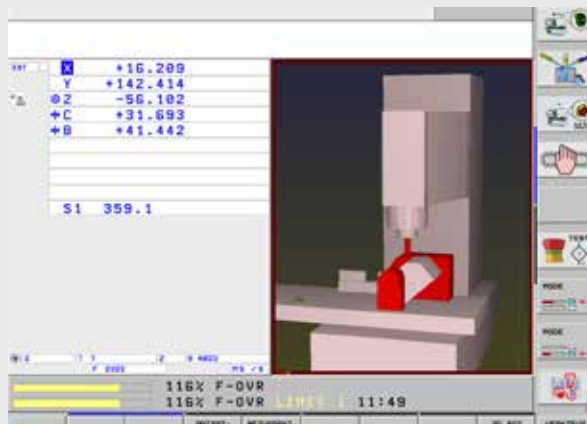
3D probe system

With infrared signal transmission to determine the workpiece zero point and for workpiece measurements. Automatic mis-alignment compensation thanks to 360° coverage.



Always within reach

The hand-control box with the electronic handwheel and compressed air gun are fitted as standard on the control panel with 19" screen.



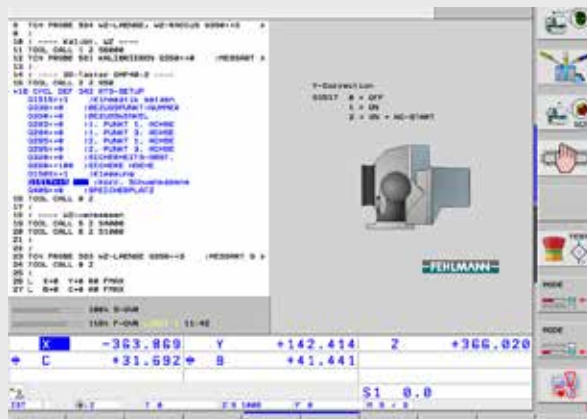
Minimize the risk of collision

Active collision detection (optional) helps operators avoid collisions due to manipulation and programming interventions. Tools and clamping aids are stored in the control unit. If the control unit detects a possible collision, the feed is slowed down or even stopped.



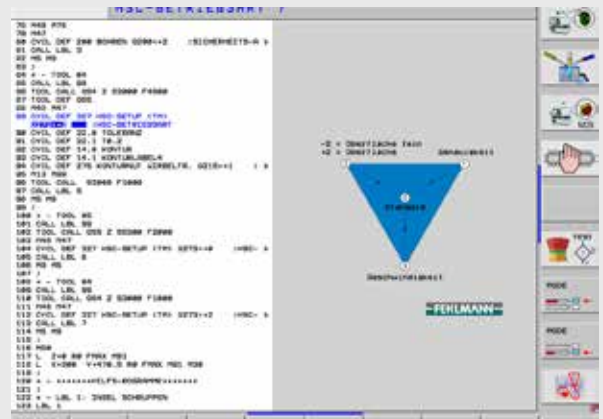
Advanced power saving function

The machine drives are automatically switched to hibernation mode after the processing of NC programs. With this option, the system can be automatically restarted at a programmed time, enabling unattended warm-up of spindles and axes.



Automatic detection of rotation centres

In combination with the separately available tailstock, the FEHLMANN alignment cycle (optional) easily detects the rotation centres of the ATS dividing unit, with an accuracy of one thousandth of a millimetre. The cycle requires an alignment pallet or inspection cylinder.



Perfect adjustment of the axis in each processing step

The FEHLMANN-developed HSC-SETUP cycle for dynamically optimizing digital axis drive settings. For each tool, the focus can be placed either on processing speed, surface quality or accuracy.

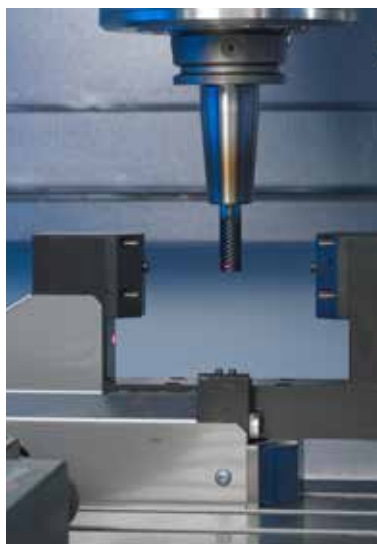


Save valuable time during tool change

The machine can be easily operated from the front during machining.

The compact but generous tool-changer is equipped with a chain magazine and a double gripper. The front door of the machine opens the entrance of the tool magazine. A double gripper subsequently inserts the tools quickly and securely into the spindle.

Non-contact tool measurement and breakage detection directly on the machine. Tools with diameters between 0.3 mm and 80 mm can be measured contact-free, in standstill or while rotating. The measured values are stored directly in the central tool file of the machine control unit. With the integrated nozzles, the tool is cleaned prior to each measurement. A mechanical switch can also be used instead of laser scanning.





Tool changing system with 46 or 72 tool pockets

The basic version contains 46 tool pockets. Optionally, 72 tool pockets are available by extending the chain out the back of the machine.

Expanded tool management

Manual operation Expanded tool management

Programming

Tool	Program	Tool ID	Tool Name	Tool Type	Tool Length	Tool Diameter	Tool Material	Tool Status
1	DRILL	01	DRILL 10x100	DRILL	100	10	CO	OK
2	DRILL	02	DRILL 12x120	DRILL	120	12	CO	OK
3	DRILL	03	DRILL 14x140	DRILL	140	14	CO	OK
4	DRILL	04	DRILL 16x160	DRILL	160	16	CO	OK
5	DRILL	05	DRILL 18x180	DRILL	180	18	CO	OK
6	DRILL	06	DRILL 20x200	DRILL	200	20	CO	OK
7	DRILL	07	DRILL 22x220	DRILL	220	22	CO	OK
8	DRILL	08	DRILL 24x240	DRILL	240	24	CO	OK
9	DRILL	09	DRILL 26x260	DRILL	260	26	CO	OK
10	DRILL	10	DRILL 28x280	DRILL	280	28	CO	OK
11	DRILL	11	DRILL 30x300	DRILL	300	30	CO	OK
12	DRILL	12	DRILL 32x320	DRILL	320	32	CO	OK
13	DRILL	13	DRILL 34x340	DRILL	340	34	CO	OK
14	DRILL	14	DRILL 36x360	DRILL	360	36	CO	OK
15	DRILL	15	DRILL 38x380	DRILL	380	38	CO	OK
16	DRILL	16	DRILL 40x400	DRILL	400	40	CO	OK
17	DRILL	17	DRILL 42x420	DRILL	420	42	CO	OK
18	DRILL	18	DRILL 44x440	DRILL	440	44	CO	OK
19	DRILL	19	DRILL 46x460	DRILL	460	46	CO	OK
20	DRILL	20	DRILL 48x480	DRILL	480	48	CO	OK
21	DRILL	21	DRILL 50x500	DRILL	500	50	CO	OK
22	DRILL	22	DRILL 52x520	DRILL	520	52	CO	OK
23	DRILL	23	DRILL 54x540	DRILL	540	54	CO	OK
24	DRILL	24	DRILL 56x560	DRILL	560	56	CO	OK
25	DRILL	25	DRILL 58x580	DRILL	580	58	CO	OK
26	DRILL	26	DRILL 60x600	DRILL	600	60	CO	OK
27	DRILL	27	DRILL 62x620	DRILL	620	62	CO	OK
28	DRILL	28	DRILL 64x640	DRILL	640	64	CO	OK
29	DRILL	29	DRILL 66x660	DRILL	660	66	CO	OK
30	DRILL	30	DRILL 68x680	DRILL	680	68	CO	OK
31	DRILL	31	DRILL 70x700	DRILL	700	70	CO	OK
32	DRILL	32	DRILL 72x720	DRILL	720	72	CO	OK
33	DRILL	33	DRILL 74x740	DRILL	740	74	CO	OK
34	DRILL	34	DRILL 76x760	DRILL	760	76	CO	OK
35	DRILL	35	DRILL 78x780	DRILL	780	78	CO	OK
36	DRILL	36	DRILL 80x800	DRILL	800	80	CO	OK
37	DRILL	37	DRILL 82x820	DRILL	820	82	CO	OK
38	DRILL	38	DRILL 84x840	DRILL	840	84	CO	OK
39	DRILL	39	DRILL 86x860	DRILL	860	86	CO	OK
40	DRILL	40	DRILL 88x880	DRILL	880	88	CO	OK
41	DRILL	41	DRILL 90x900	DRILL	900	90	CO	OK
42	DRILL	42	DRILL 92x920	DRILL	920	92	CO	OK
43	DRILL	43	DRILL 94x940	DRILL	940	94	CO	OK
44	DRILL	44	DRILL 96x960	DRILL	960	96	CO	OK
45	DRILL	45	DRILL 98x980	DRILL	980	98	CO	OK
46	DRILL	46	DRILL 100x1000	DRILL	1000	100	CO	OK
47	DRILL	47	DRILL 102x1020	DRILL	1020	102	CO	OK
48	DRILL	48	DRILL 104x1040	DRILL	1040	104	CO	OK
49	DRILL	49	DRILL 106x1060	DRILL	1060	106	CO	OK
50	DRILL	50	DRILL 108x1080	DRILL	1080	108	CO	OK
51	DRILL	51	DRILL 110x1100	DRILL	1100	110	CO	OK
52	DRILL	52	DRILL 112x1120	DRILL	1120	112	CO	OK
53	DRILL	53	DRILL 114x1140	DRILL	1140	114	CO	OK
54	DRILL	54	DRILL 116x1160	DRILL	1160	116	CO	OK
55	DRILL	55	DRILL 118x1180	DRILL	1180	118	CO	OK
56	DRILL	56	DRILL 120x1200	DRILL	1200	120	CO	OK
57	DRILL	57	DRILL 122x1220	DRILL	1220	122	CO	OK
58	DRILL	58	DRILL 124x1240	DRILL	1240	124	CO	OK
59	DRILL	59	DRILL 126x1260	DRILL	1260	126	CO	OK
60	DRILL	60	DRILL 128x1280	DRILL	1280	128	CO	OK
61	DRILL	61	DRILL 130x1300	DRILL	1300	130	CO	OK
62	DRILL	62	DRILL 132x1320	DRILL	1320	132	CO	OK
63	DRILL	63	DRILL 134x1340	DRILL	1340	134	CO	OK
64	DRILL	64	DRILL 136x1360	DRILL	1360	136	CO	OK
65	DRILL	65	DRILL 138x1380	DRILL	1380	138	CO	OK
66	DRILL	66	DRILL 140x1400	DRILL	1400	140	CO	OK
67	DRILL	67	DRILL 142x1420	DRILL	1420	142	CO	OK
68	DRILL	68	DRILL 144x1440	DRILL	1440	144	CO	OK
69	DRILL	69	DRILL 146x1460	DRILL	1460	146	CO	OK
70	DRILL	70	DRILL 148x1480	DRILL	1480	148	CO	OK
71	DRILL	71	DRILL 150x1500	DRILL	1500	150	CO	OK
72	DRILL	72	DRILL 152x1520	DRILL	1520	152	CO	OK
73	DRILL	73	DRILL 154x1540	DRILL	1540	154	CO	OK
74	DRILL	74	DRILL 156x1560	DRILL	1560	156	CO	OK
75	DRILL	75	DRILL 158x1580	DRILL	1580	158	CO	OK
76	DRILL	76	DRILL 160x1600	DRILL	1600	160	CO	OK
77	DRILL	77	DRILL 162x1620	DRILL	1620	162	CO	OK
78	DRILL	78	DRILL 164x1640	DRILL	1640	164	CO	OK
79	DRILL	79	DRILL 166x1660	DRILL	1660	166	CO	OK
80	DRILL	80	DRILL 168x1680	DRILL	1680	168	CO	OK
81	DRILL	81	DRILL 170x1700	DRILL	1700	170	CO	OK
82	DRILL	82	DRILL 172x1720	DRILL	1720	172	CO	OK
83	DRILL	83	DRILL 174x1740	DRILL	1740	174	CO	OK
84	DRILL	84	DRILL 176x1760	DRILL	1760	176	CO	OK
85	DRILL	85	DRILL 178x1780	DRILL	1780	178	CO	OK
86	DRILL	86	DRILL 180x1800	DRILL	1800	180	CO	OK
87	DRILL	87	DRILL 182x1820	DRILL	1820	182	CO	OK
88	DRILL	88	DRILL 184x1840	DRILL	1840	184	CO	OK
89	DRILL	89	DRILL 186x1860	DRILL	1860	186	CO	OK
90	DRILL	90	DRILL 188x1880	DRILL	1880	188	CO	OK
91	DRILL	91	DRILL 190x1900	DRILL	1900	190	CO	OK
92	DRILL	92	DRILL 192x1920	DRILL	1920	192	CO	OK
93	DRILL	93	DRILL 194x1940	DRILL	1940	194	CO	OK
94	DRILL	94	DRILL 196x1960	DRILL	1960	196	CO	OK
95	DRILL	95	DRILL 198x1980	DRILL	1980	198	CO	OK
96	DRILL	96	DRILL 200x2000	DRILL	2000	200	CO	OK
97	DRILL	97	DRILL 202x2020	DRILL	2020	202	CO	OK
98	DRILL	98	DRILL 204x2040	DRILL	2040	204	CO	OK
99	DRILL	99	DRILL 206x2060	DRILL	2060	206	CO	OK
100	DRILL	100	DRILL 208x2080	DRILL	2080	208	CO	OK
101	DRILL	101	DRILL 210x2100	DRILL	2100	210	CO	OK
102	DRILL	102	DRILL 212x2120	DRILL	2120	212	CO	OK
103	DRILL	103	DRILL 214x2140	DRILL	2140	214	CO	OK
104	DRILL	104	DRILL 216x2160	DRILL	2160	216	CO	OK
105	DRILL	105	DRILL 218x2180	DRILL	2180	218	CO	OK
106	DRILL	106	DRILL 220x2200	DRILL	2200	220	CO	OK
107	DRILL	107	DRILL 222x2220	DRILL	2220	222	CO	OK
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110	DRILL	110	DRILL 228x2280	DRILL	2280	228	CO	OK
111	DRILL	111	DRILL 230x2300	DRILL	2300	230	CO	OK
112	DRILL	112	DRILL 232x2320	DRILL	2320	232	CO	OK
113	DRILL	113	DRILL 234x2340	DRILL	2340	234	CO	OK
114	DRILL	114	DRILL 236x2360	DRILL	2360	236	CO	OK
115	DRILL	115	DRILL 238x2380	DRILL	2380	238	CO	OK
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117	DRILL	117	DRILL 242x2420	DRILL	2420	242	CO	OK
118	DRILL	118	DRILL 244x2440	DRILL	2440	244	CO	OK
119	DRILL	119	DRILL 246x2460	DRILL	2460	246	CO	OK
120	DRILL	120	DRILL 248x2480	DRILL	2480	248	CO	OK
121	DRILL	121	DRILL 250x2500	DRILL	2500	250	CO	OK
122	DRILL	122	DRILL 252x2520	DRILL	2520	252	CO	OK
123	DRILL	123	DRILL 254x2540	DRILL	2540	254	CO	OK
124	DRILL	124	DRILL 256x2560	DRILL	2560	256	CO	OK
125	DRILL	125	DRILL 258x2580	DRILL	2580	258	CO	OK
126	DRILL	126	DRILL 260x2600	DRILL	2600	260	CO	OK
127	DRILL	127	DRILL 262x2620	DRILL	2620	262	CO	OK
128	DRILL	128	DRILL 264x2640	DRILL	2640	264	CO	OK
129	DRILL	129	DRILL 266x2660	DRILL	2660	266	CO	OK
130	DRILL	130	DRILL 268x2680	DRILL	2680	268	CO	OK
131	DRILL	131	DRILL 270x2700	DRILL	2700	270	CO	OK
132	DRILL	132	DRILL 272x2720	DRILL	2720	272	CO	OK
133	DRILL	133	DRILL 274x2740	DRILL	2740	274	CO	OK
134	DRILL	134	DRILL 276x2760	DRILL	2760	276	CO	OK
135	DRILL	135	DRILL 278x2780	DRILL	2780	278	CO	OK
136	DRILL	136	DRILL 280x2800	DRILL	2800	280	CO	OK
137	DRILL	137	DRILL 282x2820	DRILL	2820	282	CO	OK
138	DRILL	138	DRILL 284x2840	DRILL	2840	284	CO	OK
139	DRILL	139	DRILL 286x2860	DRILL	2860	286	CO	OK
140	DRILL	140	DRILL 288x2880	DRILL	2880	288	CO	OK
141	DRILL	141	DRILL 290x2900	DRILL	2900	290	CO	OK
142	DRILL	142	DRILL 292x2920	DRILL	2920	292	CO	OK
143	DRILL	143	DRILL 294x2940	DRILL	2940	294	CO	OK
144	DRILL	144	DRILL 296x2960	DRILL	2960	296	CO	OK
145	DRILL	145	DRILL 298x2980	DRILL	2980	298	CO	OK
146	DRILL	146	DRILL 300x3000	DRILL	3000	300	CO	OK
147	DRILL	147	DRILL 302x3020	DRILL	3020	302	CO	OK
148	DRILL	148	DRILL 304x3040	DRILL	3040	304	CO	OK
149	DRILL	149	DRILL 306x3060	DRILL	3060	306	CO	OK
150	DRILL	150	DRILL 308x3080	DRILL	3080	308	CO	OK
151	DRILL	151	DRILL 310x3100	DRILL	3100	310	CO	OK
152	DRILL	152	DRILL 312x3120	DRILL	3120	312	CO	OK
153	DRILL	153	DRILL 314x3140	DRILL	3140	314	CO	OK
154	DRILL	154	DRILL 316x3160	DRILL	3160	316	CO	OK
155	DRILL	155	DRILL 318x3180	DRILL	3180	318	CO	OK
156	DRILL	156	DRILL 320x3200	DRILL	3200	320	CO	OK
157	DRILL	157	DRILL 322x3220	DRILL	3220	322		

Even more productive thanks to automation — can be retrofitted at any time



Well-thought-out and tailored to your needs

Achieve greater productivity with FEHLMANN automation solutions. The amount and design of the axes as well as number of pallet spaces can be configured precisely to your requirements.

The PICOMAX 95 is designed so that it can be easily adapted to a variety of automation concepts — tuned and tested for full performance from the very first day. Standardized or customized automation with a robot may be retrofitted at any time — quickly and easily. Whether as a single-machine solution, automation for two machines or as a linear system — FEHLMANN offers complete solutions, everything from one source.

Simple and intuitive controls

Depending on the number of pallets and parts, the system is controlled and monitored either with the flexible FEHLMANN Milling Centre Manager (MCM™) or via an integrated pallet management file.

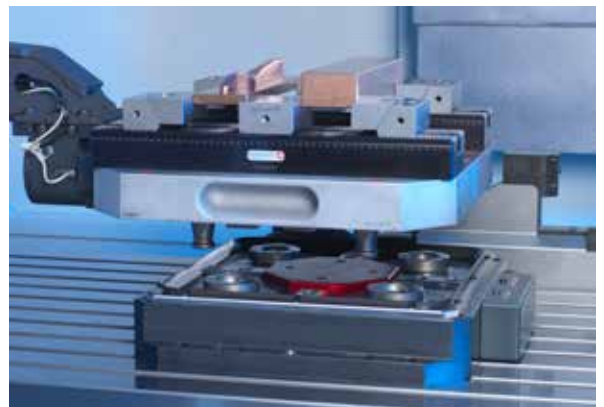
The in-house developed FEHLMANN host computer system Milling Centre Manager (MCM™) controls, records and monitors the installations. Machining order, zero points, etc. are entered in clearly structured job tables (Windows surface). The operating staff can easily change the order or individual parameters of the pending jobs during system operation. For instance, one may insert a workpiece with an urgent deadline into the process flow with a simple mouse click. This keeps up your flexibility even in automatic operation.

Due to the high operator comfort of the machine and MCM™, the FEHLMANN solutions are not only perfectly suited for series production, but also for small lot manufacturing starting from just a few parts.

The open system platform, based on a Windows application, allows for easy integration into the customer's network.



Handling of blanks as well as pallets with 6 axis articulated-arm robot

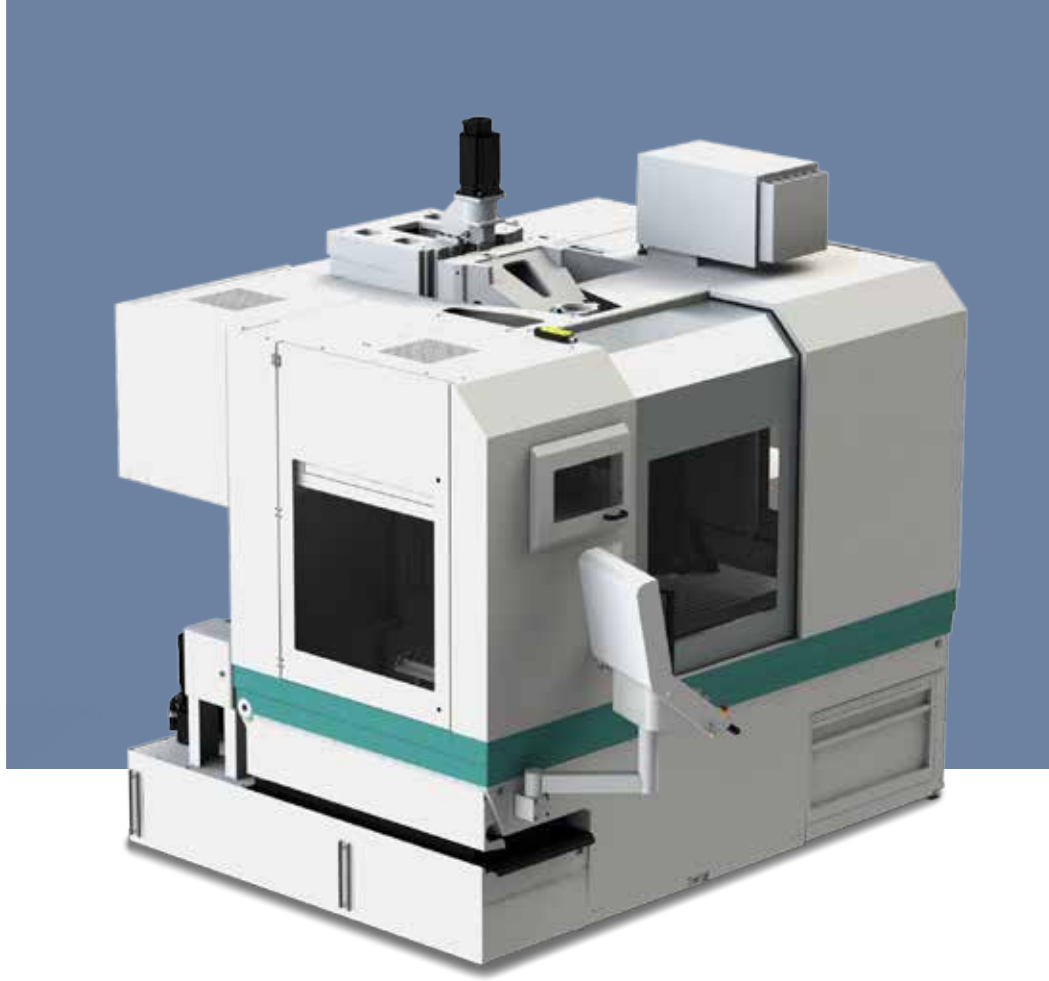


Handling of pallets — example with UPC chucking systems



Minimal Lubrication System

Economical cooling and lubricating system. Perfect for milling or highspeed cutting of materials such as aluminum, copper and hardened steels. The device is equipped with 2 nozzles and is controlled via M-functions.



Chip flow and cooling — tailored to your requirements

Cooling and chip management

To meet your requirements, FEHLMANN provides a wide range of solutions for coolant supply and chip removal.



Standard coolant system

The chips are flushed through machine bed into a drawer that can be easily and conveniently emptied by hand. A bag filter is optionally available to remove fine shavings from the coolant.



Coolant system with auxiliary tank

To keep the coolant temperature low, even with high production output, an additional tank with 650 litre capacity is used. Consistent coolant quality is ensured through automatically actuated circulation system after two hours of inactivity. A high pressure pump (40 or 80 bar) allows the use of internally cooled tools.



Coolant system with chip conveyor

The use of a coolant system (capacity 700 l) with chip conveyors is recommended for large amounts of chips, enabling larger batches to be processed without interruption. A high pressure pump for internally cooled tools is available with 40 or 80 bar.



Coolant system with chip conveyor and belt conveyor

The band filter enables longer periods of machine operation without stops to empty the filter. The high pressure pump with 80 bar for use of internally cooled tools is included in delivery. Tank capacity 1400 l.

High quality thanks to our in-house manufacturing and qualified customer service



In our climate-controlled production halls we manufacture high-precision components that comply with the quality standard ISO 9001.

Modern machine-tools have a key function in the manufacturing process. Thus, it is vital that our customers can rely 100 % on their availability. Even more important are fast and cost-effective solutions in case of technical malfunctions.

Development, production, assembly, training and service: at FEHLMANN, you will receive everything from a single source.

Complete in-house manufacturing ensures not only high quality, but also long-term availability of spare parts. Ongoing investments in the latest production and environmental technologies together with lean and efficient processes, long-standing expertise and, last but not least, our committed and competent employees stand for quality, reliability and safety. These are the features that distinguish the FEHLMANN high-precision milling machines.

Short response times

Highly-qualified hotline employees actively offer support to our customers during troubleshooting. A malfunction can be efficiently

narrowed down through telephone assistance and, in some cases, directly solved on the phone with expert advice. Furthermore, modern means of communication allow remote diagnosis of your machine, if required. This considerably reduces not only down times, but also costs.

Immediate spare parts supply

Due to our high level of in-house production, we have the required spare parts in stock and are able to deliver them to our customers at short notice, even with express delivery if required. Moreover, our efficient ticketing solution through our free hotline minimizes problem solving time.

Comprehensive solutions for maintenance, service and spare parts delivery

The delivery of pre-parameterized electronic modules, such as CNC control units, drives, etc. whenever possible, considerably reduces the repair time on site. EU customers can return defect spare parts at their convenience to our office in Mönsheim (Germany) without customs formalities. Our in-house repair service can supply you with as-good-as-new reconditioned replacement units or rental equipment for the duration of the inspection work, which also keeps costs low.

Personal and competent

We provide our customers with personal and highly qualified advice. Please contact our customer service at:

Fehlmann AG Maschinenfabrik
5703 Seon/Switzerland

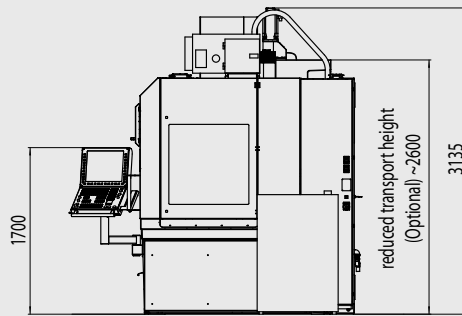
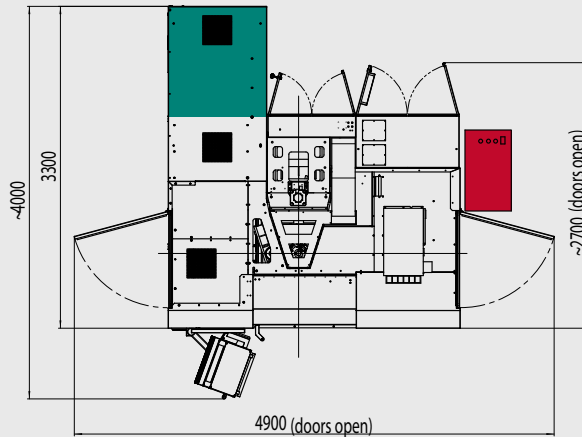
Phone +41 62 769 12 80

Fax +41 62 769 11 93

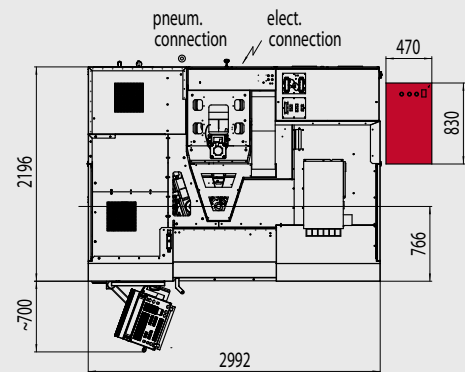
E-mail service@fehlmann.com



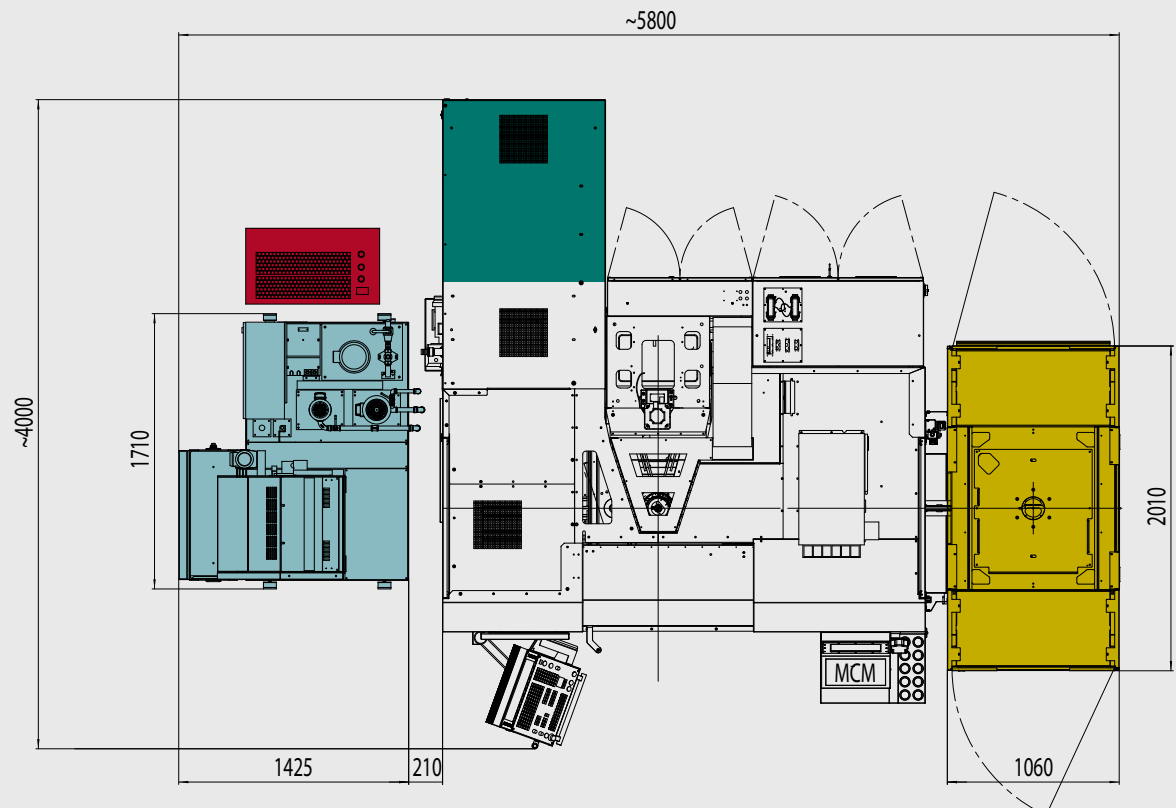
Fehlmann AG center of excellence in Seon: development, planning, production and administration under one roof.



Option 72 tools
(doors open)



46 tools



Machining cell with EROWA
ROBOT COMPACT 80 and 80 bar
coolant system with 1400 l tank
and band filter.

Technical Data

PICOMAX® 95

Travel

X travel	mm	800
Y travel	mm	500
Z travel	mm	610
Dividing axis C (ATS 200)	Degrees	0–360°
Swivel axis B (ATS 200)	Degrees	–10°/+120°

Table / work area

Clamping surface (length × width)	mm	1600 × 550
T slots (width / distance / number)		12-H8 / 50 / 10
Distance between table and spindle nose	mm	160–770
Max. permissible table load	kg	600

Tool changer

Magazine pockets standard		46
Magazine pockets optional		72
Maximum tool diameter without free spaces	mm	ø 80
Maximum tool diameter with free spaces	mm	ø 160
Max. tool length (from spindle nose)	mm	350
Tool change time	sec	2
Mean chip-to-chip time	sec	4
Max. tool weight	kg	5

Feed rates

Axis X/Y/Z	mm/min	1–30 000
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Position accuracies according to ISO 230-2 resp. VDI/DGQ 3441

			Option
Position tolerance A	mm	0.005	0.003
Position variation range R	mm	0.003	0.002

Measurement systems

Direct measuring system in all axes, pressurization inclusive.

Connection data

Operating voltage and frequency	V/Hz	3 × 400/50
Recommended pre-fusing	A	63 AT
Pneumatics operating pressure	bar	6

Weight

Machine-tool (excl. cooling medium)	kg	~ 9100/46 tools ~ 9400/72 tools
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Subject to technical modifications.

Spindles

Speed range	rpm	50–14 000
Tool holder		HSK-A63
Repeatability	mm	0.002
Output at S1 (100% ED)	kW	18.5
Output at S6 (40% ED)	kW	24.0
Max. torque at S6 and rated speed	Nm	120
Nominal rated speed	rpm	1920

Speed range	rpm	50–20 000
Tool holder		HSK-A63
Repeatability	mm	0.002
Output at S1 (100% ED)	kW	18.5
Output at S6 (40% ED)	kW	24.0
Max. torque at S6 and rated speed	Nm	120
Nominal rated speed	rpm	1920

Speed range	rpm	50–24 000
Tool holder		HSK-A63
Repeatability	mm	0.002
Output at S1 (100% ED)	kW	20.0
Output at S6 (40% ED)	kW	25.5
Max. torque at S6 and rated speed	Nm	74
Nominal rated speed	rpm	3320

Subject to technical modifications.



**Machining centres
in portal design**



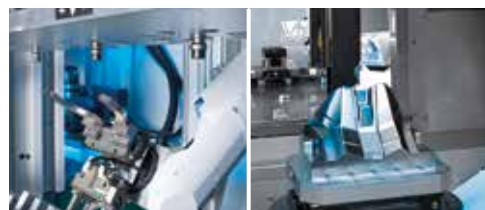
Machining centres



Milling / Drilling machines



Services / Accessories



Automation

Your Precision Advantage.®



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