FEIN pipe
milling machines

The FEIN solution to pipe cutting.

Powered by innovation

Powerful professionals.

FEIN pipe milling machines are world reknown in the field of pipe cutting technology. Their applications range from trimming pipes before laying to cutting pipes already lowered into the ground. Whether cast or steel pipes for oil, gas or water as used for pipelines in municipal supply networks, power plants, and industrial systems as well as for container construction – reliable and precise work with FEIN pipe milling cutters. Optimised technology ensures improved cutting performance.

Approved technology for perfect results.

Especially under difficult conditions such as pipe ruptures, the system proves its utilisability. By selecting the right gear ratios the ideal cutting and advance speeds can be adapted to various pipe materials. This makes cost-efficient use of HSS and carbide tools possible.

Important note for use in member countries of the EC:

EC directive 94/9EC ATEX (Explosive Atmospheres)
We would like to point out that the type RDG/RSG/RSGex FEIN pipe milling machines are not permitted for use in areas where there is a risk of explosions and that there are no prototype technical-release certifications in accordance to directive 94/9EC.

(Only two ATEX-conforming components – the electric motor and the auxiliary switch – are built into the RSGex pipe milling machine.)

At a glance

- ☐ Powerful, robust compressed air and three-phase AC motors for use even under extreme conditions.
- ☐ Electric motors providing power even at sub-zero temperatures.
- ☐ Electric pipe milling machines with advance and return motion (return motion only in non-load condition).
- ☐ Suitable for pipe diameters from 250 mm to 3,000 mm diameter.
- ☐ Profile or straight cuts with profile cutter or saw blade.
- ☐ Precise tracking and clean cuts thanks to two-chain system, adjustable track setting, and double chain tightening.
- ☐ Crack-free pipe ends.
- ☐ Simple assembly due to optimised handling.
- ☐ Available in two gear types, with different advance and rational speed sequences appropriate for the material.
- ☐ Advance and milling drive connected by gears.
- ☐ Overload protection of the gear by slipping clutch.
- ☐ Special models with divided drive shaft for cutting thick-walled pipes and containers available on request.
- ☐ Wide selection of FEIN accessories.

FEIN electric pipe milling machines:

- ☐ Safety class I.
- ☐ Enclosure IP X4.
- ☐ In connection with the switchgear system:
  - ☐ Safety due to self-start lock.
  - ☐ Overload protection for the three-phase AC motor.
- ☐ Constructed and tested according to EN 61029.

RSG 18:

- ☐ Explosion and humidity-proof three-phase AC motor (classification EExeIIT3) for universal cutting.

RSG Ex 18:

- ☐ Explosion and humidity-proof three-phase AC motor (classification EExeIIT3), with explosion-proof auxiliary switch (classification EExdeIICT6), especially suited for cutting oil and gas lines.

FEIN compressed-air pipe milling machines:

RDG 18-3:

- ☐ Protection for work on water, oil, and gas pipelines because of compressed air power.
- ☐ Motor drive parts made of stainless materials. The lamellas of the compressed air motor are non-swelling. Even brief dry-runs are possible. Suitable for use in drinking-water area.

In pipeline construction.

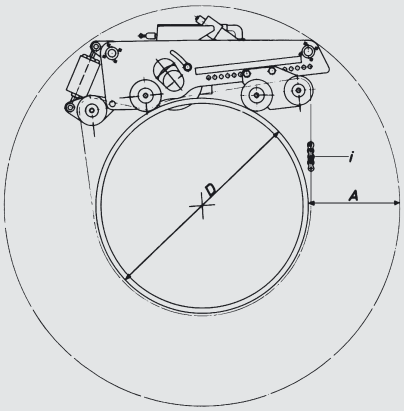
For steel pipes.

For cement centrifuged pipes.

Always the proper setting.

The clamping.

FEIN pipe milling machines are adjusted to different pipe diameters by changing the wheel base. The clamping is done by two link chains. The number of necessary chain links and the working space needed may be found in the table on the right.



Position carrier axle	Pipe, outer Ø "D" mm	Space around the pipe "A" mm	Chain required per side mm	Total chain length mm	Number of chain links to order **3 02 31 013 02 7**
	250	452	1,427	2,854	5
I	300	452	1,525	3,050	5
	350	450	1,632	3,264	6
	400	448	1,744	3,488	6
	400	414	1,782	3,564	6
	450	413	1,898	3,796	7
II	500	412	2,019	4,038	7
	550	411	2,144	4,288	7
	600	409	2,273	4,546	8
	600	383	2,302	4,604	8
	650	383	2,433	4,866	8
III	700	382	2,566	5,132	9
	750	381	2,702	5,404	9
	800	379	2,840	5,680	9
	800	356	2,862	5,724	10
	850	355	3,001	6,002	10
IV	900	355	3,142	6,284	10
	950	354	3,284	6,568	11
	1,000	354	3,428	6,856	11
	1,000	312	3,464	6,928	11
	1,050	312	3,607	7,214	12
V	1,100	313	3,751	7,502	12
	1,150	313	3,896	7,792	13
	1,200	313	4,062	8,124	13
	1,300	314	4,338	8,676	14
	1,300	293	4,355	8,710	14
	1,400	295	4,651	9,302	15
	1,500	297	4,950	9,900	16
	1,600	298	5,250	10,500	17
	1,700	299	5,553	11,106	18
VI	1,800	300	5,857	11,714	19
	1,900	301	6,162	12,324	20
	2,000	301	6,468	12,936	21
	2,100	302	6,775	13,550	22
	2,200	303	7,083	14,166	23
	2,300	303	7,391	14,782	24
	2,400	303	7,700	15,400	25
	2,500	304	8,009	16,018	26
	2,600	304	8,319	16,638	27
	2,700	305	8,629	17,258	28
	2,800	305	8,940	17,880	29
	2,900	305	9,251	18,502	30
	3,000	305	9,562	19,124	31

Space around the pipe = working space with cutting tool completely immersed
Item number 3 02 31 013 02 7 consists of 10 chain links with a length of 63.5 mm each.
In order to obtain optimal chain pre-tensioning, possibly use half-links (31.75 mm long) included in the tool case
Example for an order: Pipe diameter 400 mm: order 6 times 3 02 31 013 02 7.

Application examples

In container construction.

Sophisticated and effective

The compressed-air cooling lubrication system.

The high cutting and advancing speeds of the FEIN pipe milling machines place highest demands on lubrication and cooling – especially on the tools that cut steel. FEIN employs the tried and tested compressed-air cooling lubrication system on all pipe milling machines. It extends the tool life and ensures a longer than average service life. The principle function of the compressed-air cooling lubrication: The coolant tank is constantly pressurised by compressed air so that air and coolant are sprayed through two adjustable nozzles onto the cutting tools. The sprayed on mist evaporates immediately, thereby withdrawing heat from the tool. Lubrication is provided by the coolant's oily components that adhere to the tool blades. Due to the low spray consumption, contamination of the soil is avoided.

Cooling lubricant device

Compressor

Cooling lubrication system

Technical data:		
Tank capacity	dm^3	2.5
Cooling lubrication fluid max.	dm^3	1.8
Tank inner pressure max.	bar	7
Pressure of the feed compressor max.	bar	10
Opening pressure safety valve	bar	7
Recommended operating pressure	bar	0.5-7
Air consumption up to	Nm^3/min	0.02-0.05
Spray consumption up to	dm^3/h	0.3
Net weight	kg	8.5
Order reference		**9 12 01 002 00 4**

Recommendation:
* Cooling lubricant BIOCUT 3000 available from:
Fa. Link, Am Herrenweg 6,
D-76228 Karlsruhe,
Phone ++49 (0)721/450555
Fax ++49 (0)721/451411
e-mail: link-gmbh@t-online.de
Internet: http://www.microjet.de

Required accessories:

Plate
for mounting the hand-double-valve to the pipe milling machines.
Order reference **3 24 33 027 01 7**

Coupling sleeve
To connect the compressed-air cooling lubrication device to the maintenance unit.
Order reference **4 11 36 005 01 9**

Compressor
The compressor is needed for operating the cooling lubrication device with the RSG/RSG Ex three-phase AC models. Safety class I; enclosure IP 42;
incl. suction hose with filter.

Technical data:		
Voltage/type of current	V	230/~
Power input	W	520
Suction capacity	l/min	132
Pressure max.	bar	3.8
Dimensions:		
Height	mm	340
Length	mm	400
Width	mm	168
Cable with plug	m	2.8
Weight	kg	18.3
Order reference		**9 26 01 023 02 3**

Optimal protection for water, gas and oil.

Depending on the area of usage and the power supply available, a selection can be made among specifically designed electrical and compressed air models of the FEIN pipe milling machines.
The extra advantage: The explosion-proof electric motors meet the same safety requirements as the compressed air motors. They are therefore ideally suited for working on gas and oil pipelines.

Precise tracking, clean cuts.

The two-chain system with separate spring tension cartridges and the adjustable track settings make it possible to cut around diameters of 250 to 3,000 mm precisely and without torsion. The chain clamping provides a marking-free cutting operation. This makes the FEIN pipe milling machines also suitable for example for working on high-pressure pipes. The chip removing process provides neat pipe ends. By employing the appropriate implements you can make everything from clean separation cuts to profile cuts for V- or U-welding grooves. All that with simple assembly and easy handling.

Electric pipe milling machines (A)

Order reference		**360 06**	**360 07**
Type of construction		RSG, Ex18a	RSG, Ex18b
Order reference		**360 09**	**360 10**
Type of construction		RSG, 18a	RSG, 18b
Voltages	Volt	400	400
Frequency	Hz	50	50
Type of current		3 ~	3 ~
Motor speed, idle	rpm	2,860	2,860
Saw blade or milling speed, idle	rpm	35	70
Cutting depth	max.mm	45[1)]	45[1)]
Cutting speed	m/min	19.7[2)]	39.5[2)]
Advance	mm/min	40	80
Power consumption	kW	2.0	2.0
Power output	kW	1.5	1.5
Cable with plug	m	10[3)]	10[3)]
Net weight	kg	95	95

Price includes:
1 transport container, 1 metal tool case, 1 hand crank, 10 splitting wedges (RSGex 18 a b with 5 splitting wedges, non-sparking), 20 bolts, 20 retaining rings, 10 chain links (31.75 mm long), 1 set of wrenches, 1 switchgear with motor safety switch, 1 CEE coupling, 2 transport belts

Compressed-air pipe milling machines (B)

Order reference		**560 23**	**560 24**
Type of construction		RDG, 18-3a	RDG, 18-3b
Air pressure	bar	6	6
Air consumption, under load approx.	l/s	72	72
Motor speed, idle	rpm	6,000	6,000
Saw blade or milling speed, idle	rpm	35	70
Cutting depth max.	mm	45[1)]	45[1)]
Cutting speed	m/min	19.7[2)]	39.5[2)]
Advance	mm/min	40	80
Power output	kW	2.0	2.0
Net weight	kg	89	89

Price includes:
1 transport container, 1 metal tool case, 1 hand crank, 10 splitting wedges, 20 bolts, 20 retaining rings, 10 chain links (31.75 mm long) 1 set of wrenches, 1 can of oil, 1 maintenance unit with hose, 2 transport belts

[1)] with saw blade Ø 200 mm
[2)] based on tool Ø 180 mm
[3)] RSG Ex 18 a and b with 20 m cable and explosion-proof switch
Special models with divided drive shaft for cutting thick-walled pipes and containers available on request.

A

B

Circular saw blades

Form 1, HSS, for gear type:
a, b – for cutting steel pipes

Ø mm	Width mm	Weight kg	Teeth St.	Cutting depth max. mm	Order reference
160	4	0.5	50	25	**6 35 02 022 00 6**
180	4	0.7	60	35	**6 35 02 037 00 8**
200	4	0.9	64	45	**6 35 02 053 00 7**
220	5	1.3	70	55	**6 35 02 041 00 1**

Form 2, HSS, for gear type:
b – for cutting cast iron pipes

Ø mm	Width mm	Weight kg	Teeth pc.	Cutting depth max. mm	Order reference
160	4	0.5	40	25	**6 35 02 050 00 1**
180	4	0.7	46	35	**6 35 02 098 00 0**
200	4	0.9	50	45	**6 35 02 099 00 4**

Form 3, HSS, with carbide tipped teeth, for gear type:
b - for working on cast-iron pipes (also with cement lining) and for unalloyed steel pipes up to 400N/mm².

Ø mm	Width mm	Weight kg	Teeth pc.	Cutting depth max. mm	Order reference
160	4	0.5	40	25	**6 35 02 080 00 8**
180	4	0.7	44	35	**6 35 02 061 00 9**
200	4	0.9	50	45	**6 35 02 084 00 2**

Feather key

W x H x L (mm)	Order reference
6 x 6 x 32	**4 02 21 044 00 0**
8 x 7 x 32	**4 02 21 050 00 5**

Splitting wedges

made of steel
Order reference **6 33 05 006 00 8**
non-sparking
Order reference **6 33 05 013 00 2**

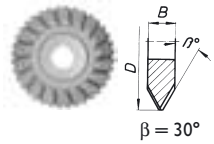
Replacement bolts

Order reference **3 02 17 216 00 4**

Transport container

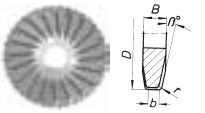
W x H x L (mm)	Order reference
800 x 395 x 1000	**3 39 01 114 00 7**

Profile cutter



V-shape, form, HSS, for gear type:
a – for the cutting steel pipes, high alloy
b – for cutting unalloyed steel and cast-iron pipes up to 10 mm wall thickness and maximum Ø 1,600 mm

Ø mm	Width mm	Weight kg	Teeth pc.	Cutting depth max. mm	Order reference
160	30	2.85	36	25	**6 35 08 081 00 9**
180	42	4.8	36	35	**6 35 08 085 00 8**



U-shape, HSS, for gear type:
a – for the cutting steel pipes, high alloy
b – for cutting unalloyed steel and cast-iron pipes up to 10 mm wall thickness and maximum Ø 1,600 mm

Ø mm	Width mm	Weight kg	Teeth pc.	Cutting depth max. mm	Order reference
160	25	2.8	40	25	**6 35 08 089 00 7**

Specially shaped cutters for other materials and other cutting geometries available on request.

Chain segment

consisting of 10 chain links at 63.5 mm each = 635 mm long.
Determine the number of chain links needed according to the table.
Order reference **3 02 31 013 02 7**

Single chain links (half lengths)

31.75 mm for precise dimensioning of the total chain length.
This makes an optimal chain pre-tension possible.
Order reference **3 02 31 029 00 2**

Replacement retaining rings

Order reference **4 26 34 020 00 5**

For further information, or if you wish to have a demonstration of our tools, please contact your local FEIN branch office or FEIN dealer.

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