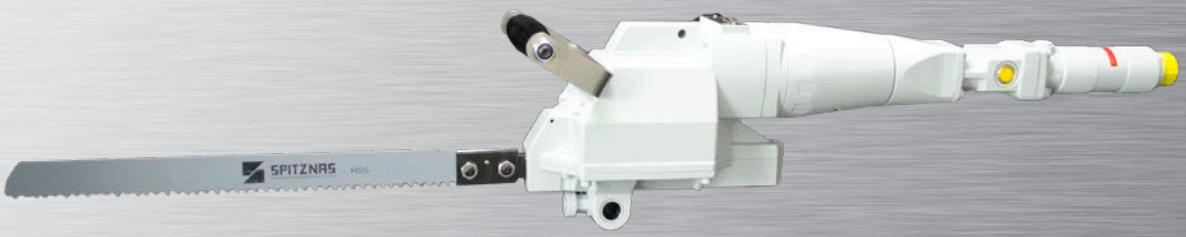
SPITZNAS
CUSTOMIZED POWER SOLUTIONS



TOOLS FOR ATEX IIC

TOOLS FOR THE SPECIALIST

AS WELL IN HYDROGEN H_2 ATMOSPHERE

PNEUMATIC

ATEX

ATEX DIRECTIVE 2014/34/EU (EXTRACT)

By implementing the ATEX Directive 2014/34/EU for the manufacturer and the ATEX Directive for the operator, the European Community established a basis for a uniform european explosion protection.

Manufacturer	Operator
According to the ATEX directive 2014/34/EU the manufacturer has to meet the following requirements: • Conformity assessment procedure • Classification of equipment groups and categories • Manufacturing and testing of the equipment • Marking of the equipment • Issuing the declaration of conformity	According the ATEX directive 99/92/EC, the operator has to comply with the following obligations: • Issuing the explosion protection document • Definition of the zones • Equipment risk assessment • Assign the equipment to the zone • Approval of the equipment

ATEX	II	2G	Ex	h	IIC	T6	Gb
Marking according to the directive 2014/34/EU	Equipment group	Category	Norm	Non-electrical equipment	Explosion group	Temperature class	Equipment Protection Level (EPL)

Equipment group I (mining)		Equipment group II (industry, ...)		
Category M1	**Category M2**	**Category 1G**	**Category 2G**	**Category 3G**
very high safety level, even in the event of two independent incidents	high safety level	safe, also in the event of rare incidents	safe, also in the event of frequent incidents	safe in normal operation
EPL (Equipment Protection Level)				
Ma	Mb	Ga	Gb	Gc
permissible ex-zone (at 0-constantly, 1-some times or 2-rarely upcoming explosive atmosphere)				
-	-	0	1	2

Gases and vapours

Explosion groups			Temperature classes			
IIA	**IIB**	**IIC**	Ignition temperature	Temperatue class	Max. permissible surface temperature	Permissible equipment group
Acetone, Ammonia Benzol - pure, Acetic acid, Ethane, Ethyl acetate, Ethyl chloride, Carbon monoxide, Methane, Methanol, Methylene chloride, Naphthalene, Phenol, Propane, Toluol	Illuminating gas Composition: e.g. Hydrogen (51%) Methane (21%) Nitrogen (15%) Carbon monoxide (9%)	Hydrogen	> 450 °C	T1	450 °C	T1 to T6
Ethyl alcohol, i-Amyl acetate, n-Butane, n-Butyl alcohol, Cyclohexane, Acetic anhydride	Ethylene, Ethylene oxide	Ethine (Acetylene)	> 300 °C to < 450 °C	T2	300 °C	T2 to T6
Petrol - general, Diesel fuel, jet fuel, heating oil DIN 51603, n-Hexane	Ethylene glycol, Hydrogen sulphide		> 200 °C to < 300 °C	T3	200 °C	T3 to T6
Acetaldehyde	Ethyl ether		> 135 °C to < 200 °C	T4	135 °C	T4 to T6
			> 100 °C to < 135 °C	T5	100 °C	T5 to T6
		Sulphide of carbon	> 85 °C to < 100 °C	T6	85 °C	only T6

Permissible equipment groups					
IIA	**IIB**	**IIC**	**IIB**	**IIC**	**only IIC**

Example:
Tool with II 2G EX h IIB T4 Gb can be used in all Zone 1 and 2 areas with IIA and IIB - T1/T2/T3/T4. Tool with II 2G EX h IIC T6 Gb can be used in all Zone 1 and 2 areas (IIC T6 is the highest classification).

Subject to changes.

CHECKLIST

The hazardous zones and areas should be identified including those where there could be short working time. The safety officer will ensure compliance with relevant safety regulations.

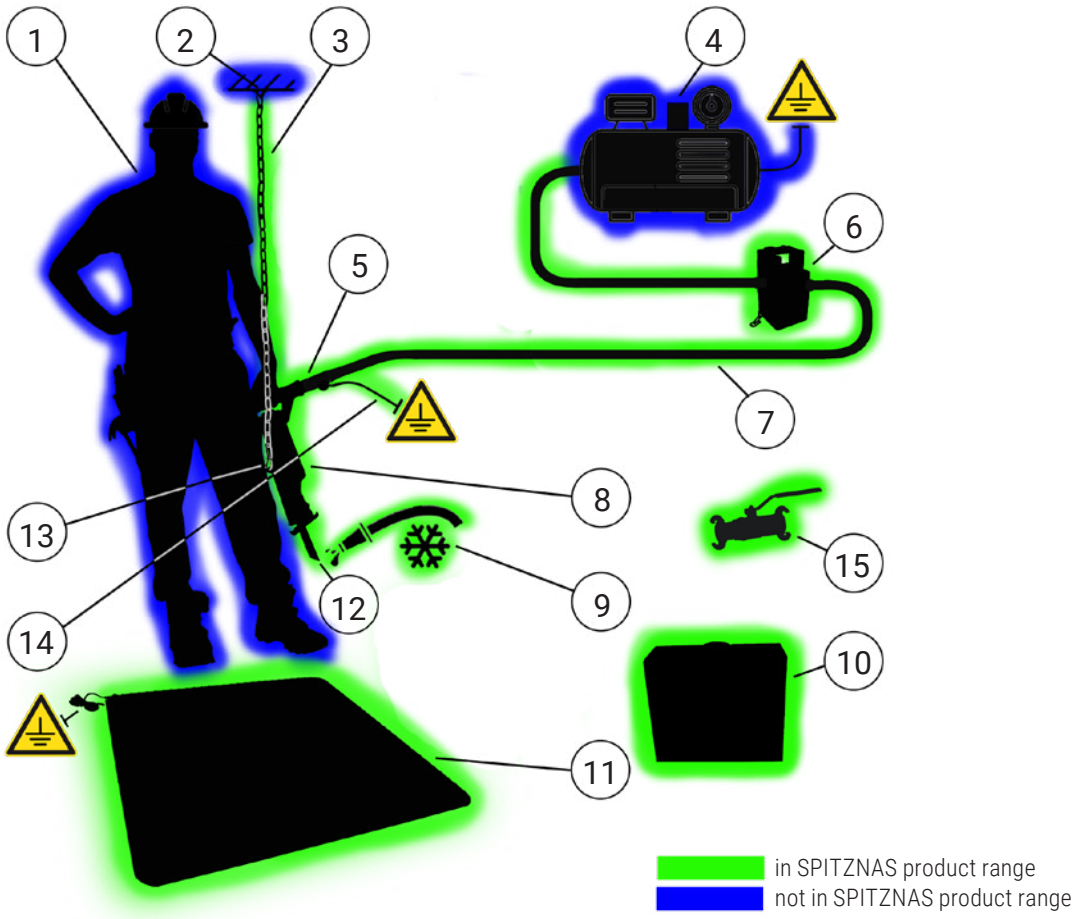
The following points should be observed to ensure safe working and assist in preparing a Safety Case (extract):

- **Observe** machine **operating instruction**
- Only use **approved safety equipment and clothing**
- Only **qualified and skilled persons** should carry out the work
- Use only **Tools, Accessories and Components** which are in good condition, clean and dirt free
- Check **leakages** and correct immediately
- Ensure the function of the **service unit** (pressure gauge, water separator and lubricator)
- Wherever practical **suspend Tool** with a Chain fitted to Suspension Bracket
- Provide a **shock absorption** ESD protection mat in the operating area
- Regularly **measure the surface temperature** on all Tools, Accessories and Components
- **Rust deposits** of any kind on Tools, Accessories and Components should not be allowed
- Regularly check the **discharge capability** of the connected earthing cables
- Ensure **permanent cooling** of the Blade, Drill Bit, etc.
- Painted surfaces must not show any **chips or damage**. **Do not** use Tool until repaired by manufacturer
- Check **actuating valves** of the Tool function properly
- Check **technical specification** of the machine e.g. speed, stroke, torque, etc. on a regular basis
- Always fit an **Earthing Cable**

SYSTEM CONCEPT

SYSTEM CONCEPT

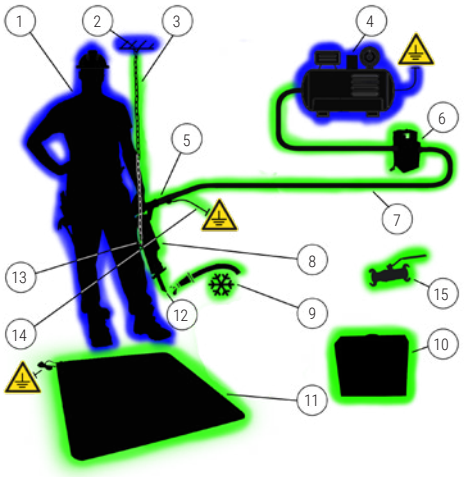
SOLUTIONS



Item	Hazard: Sparks	Hazard: Static charge	Hazard: Heat	Description	Note
1	x	x		Personal protective equipment	● All products used have to meet the safety requirements for application in the Ex-Zone. ● The employer has to ensure that only approved products are used. ● The assessment and assignment of the risk category have to be done by the employer. ● The employer must ensure the proper condition of the operated components at any point in time. ● Prior to each working process a skilled person has to check the safety devices, components, tools, as well as personal protective equipment with regard to their proper condition for use. ● Damaged and inappropriate components have to be removed immediately from the hazardous area.
2	x	x		Suspension	
3	x	x		Retaining chain with hook	
4	x	x	x	Air compressor	
5	x	x		Nipple assembly	
6	x	x		Service unit	
7	x	x		Pneumatic hose	
8	x	x	x	Machine	
9	x		x	Water cooling	
10	x	x		ESD carrying case	
11		x		ESD safety mat	
12	x	x	x	Tool	
13	x	x		Butt strap	
14	x	x		Earthing cable	
15	x	x	x	Ball valve assembly	

PRODUCT RANGE

POS.	Description
3	Retaining chain with hook
5	Nipple assembly
6	Service unit
7	Pneumatic hose
8	Machine
9	Water cooling
10	ESD carrying case
11	ESD safety mat
12	Tool
13	Butt strap
14	Earthing cable
15	Ball valve assembly



SYSTEM CONCEPT

TECHNICAL DATA

PNEUMATIC

Handy and for universal use, drill chuck up to 13 mm drilling diameter, speed adjustable with 4 switching steps, rotation left and right (reversible).

PNEUMATIC | OPERATING PRESSURE 6 Bar | ATEX

ORDER NO.	ATEX Specification	Drill chuck max. dia.	Drilling capacity dia. in steel	Speed (free)	Power	Air consumption	Noise level LpA	Vibration level	Weight
		mm	mm	rpm	kW	m³/min	dB(A)	m/s²	kg
2 1362 001C	II2GExhIICT5Gb	13	30	450/650/850/1,000 reversible	1.00	1.15	84	<2.5	3.7

Subject to technical change. Performance data at an operating pressure of 6 bar.

PNEUMATIC

The pneumatic rotary hammer drill with SDS-plus tool holder for drilling in concrete up to diameter 28 mm.
Impact mechanism can be switched on and off.

PNEUMATIC | OPERATING PRESSURE 6 Bar | ATEX

ORDER NO.	ATEX Specification	Tool holder	Drilling capacity dia. in concrete	Speed (free)	Percussion	Power	Air consumption	Noise level LpA	Vibration level	Weight
			mm	rpm	rpm	kW	m³/min	dB(A)	m/s²	kg
2 2404 001C	II2GExhIICT6Gb	SDS-plus	5-28	625	3,000	0.5	0.60	93	4.5	6.3

Subject to technical change. Performance data at an operating pressure of 6 bar.

PNEUMATIC

The speed of the pneumatic drilling machine with centering is steplessly adjustable with the safety lever valve.
The direction of rotation is right.

PNEUMATIC | OPERATING PRESSURE 6 Bar | ATEX

ORDER NO.	ATEX Specification	Tool holder	Valve type	Direction of rotation	Max. drilling diameter in steel	Speed under load	Power	Air consumption	Noise level LpA	Vibration level	Weight
					mm	rpm	kW	m³/min	dB(A)	m/s²	kg
2 2080 001C	II2GExhIICT6Gb	□ 20	Safety lever valve	right	32.00	20	1.00	1.20	92.0	3.3	13.0

Subject to technical change. Performance data at an operating pressure of 6 bar.

PNEUMATIC

The pneumatic drive unit with □ 20 mm square drive.

PNEUMATIC | **OPERATING PRESSURE** 6 Bar | **ATEX**

ORDER NO.	ATEX Specification	Tool holder (female)	Valve type	Power	Air consumption	Torque	Speed under load	Noise level LpA	Vibration level	Weight
		mm		kW	m³/min	Nm	rpm	dB(A)	m/s²	kg
3 6212 005C[1)]	II2GExhIICT6Gb	□20	Lever	0.70	1.30	230	35	91.0	<2.5	6.2
6 1014 005C[1)]	II2GExhIICT6Gb	□20	Lever	0.70	1.30	66	100	89.0	<2.5	5.2
6 1055 001C[1)]	II2GExhIICT6Gb	□20	Lever	0.70	1.30	280	22	80.5	<2.5	5.7
6 1056 001C[1)]	II2GExhIICT6Gb	□20	Lever	0.70	1.30	92.7	67	80.5	<2.5	5.9
6 1057 001C[1)]	II2GExhIICT6Gb	□20 (12)	Lever	0.70	1.30	50	125	80.5	<2.5	5.8
6 1061 001C[1)]	II2GExhIICT6Gb	□22	Lever	0.70	1.30	280	22	80.5	<2.5	5.8

Subject to technical change. [1)]free air outlet Performance data at an operating pressure of 6 bar.

PNEUMATIC

Our robust pneumatic air movers made of **stainless steel** are based on the venturi principle. They are maintenance and wear-free and can be used in **ATEX-Safety class categorie I**. The functional handle ensures mobile working in universal applications.

PNEUMATIC | **OPERATING PRESSURE** 2-6 Bar | **ATEX**

ORDER NO.	ATEX Specification	Nominal diameter (outer)	Length	Volume flow (unrestricted) at 6 bar	5 bar	4 bar	Air consumption	Connection	Noise level LpA	Vibration level	Weight
		mm	mm	m³/min	m³/min	m³/min	m³/min		dB(A)	m/s²	kg
8 1634 001C	II2GExhIICT6Gb	101.6	410	21.6	18.2	15.3	1.6 - 2.3	G 1/2" female	100.8	<2.5	4.8
8 1636 001C	II2GExhIICT6Gb	129.0	425	27.4	21.7	18.6	1.7 - 2.4	G 1/2" female	101.1	<2.5	5.6
8 1638 001C	II2GExhIICT6Gb	154.0	435	52.5	47.0	38.3	2.8 - 4.4	G 1/2" female	103.8	<2.5	7.5
8 1640 001C	II2GExhIICT6Gb	168.3	450	59.0	54.2	46.8	2.9 - 4.5	G 1/2" female	104.4	<2.5	7.7
8 1642 001C	II2GExhIICT6Gb	204.0	450	81.5	68.0	56.5	6.3 - 9.7	G 3/4" female	115.8	<2.5	9.9
8 1644 001C	II2GExhIICT6Gb	219.1	450	83.5	72.0	60.8	6.4 - 9.5	G 3/4" female	116.3	<2.5	11.5

Subject to technical change. Performance data at an operating pressure of 4-6 bar.

TECHNICAL DATA

TECHNICAL DATA

PNEUMATIC

The pneumatic band saw is the ideal tool for all cutting work.

PNEUMATIC | **OPERATING PRESSURE** 6 Bar | **ATEX**

ORDER NO.	ATEX Specification	Power	Air consumption	Type	Cutting capacity max. dia.	Cutting capacity max. □	Noise level LpA /LwA	Vibration level	Weight
		kW	m³/min		mm	mm	dB(A)	m/s²	kg
5 6031 001C	II2GExhIICT6Gb	1.0	1.20	7"x7"	180	180x180	82.0/91.0	<2.5	13.0

Subject to technical change. Performance data at an operating pressure of 6 bar.

PNEUMATIC

Lightweight and handy saw for universal use.

PNEUMATIC | **OPERATING PRESSURE** 6 Bar | **ATEX**

ORDER NO.	ATEX Specification	Power	Air consumption	Stroke	Number of strokes (free)	Noise level LpA/LwA	Vibration level	Weight
		kW	m³/min	mm	rpm	dB(A)	m/s²	kg
5 1217 001C	II2GExhIICT5Gb	1.25	1.45	28	1,700	92/103	12.3 (chipboard) 16.3 (wooden beam)	4.0

Subject to technical change. Performance data at an operating pressure of 6 bar.

PNEUMATIC

Our pneumatic reciprocating saws with twist throttle or lever control.

PNEUMATIC | OPERATING PRESSURE 6 Bar | ATEX

ORDER NO.	ATEX Specification	Housing material	Valve type	Power	Number of strokes	Stroke	Air consumption	Noise level LpA	Vibration level	Connection	Hose ID min.	Weight
				kW	rpm	mm	m³/min	dB(A)	m/s²		mm	kg
5 1212 001C	II2GExhIICT5Gb	aluminium	Twist	1.10	360	60	1.45	76.0	<2.5	R 3/4" male	13	7.5
5 1212 005C	II2GExhIICT5Gb	aluminium	Lever	1.10	360	60	1.45	76.0	<2.5	R 3/4" male	13	7.0

Subject to technical change. Performance data at an operating pressure of 6 bar.

PNEUMATIC

The pneumatic drive unit for the pipe cutting machine with low speed for **cutting and chamfering** of pipes made of different material:

- **Ductile iron**
- **Concrete**
- **Cement**
- **Clay**
- **Non-ferrous metal**
- **Plastics**
- **PE**
- **PVC**
- **GRP**

PNEUMATIC | OPERATING PRESSURE 6 Bar | ATEX

ORDER NO.	ATEX Specification	Power	Air consumption	Max. saw blade dia.	Tool holder	Speed	Max. cutting depth	Height	Noise level LpA	Vibration level	Weight
		kW	m³/min	mm	mm	rpm	mm	mm	dB(A)	m/s²	kg
5 8022 005C	II2GExhIICT6Gb	1.80	2.20	180.00	22.2/30.0	350	50.00	250.00	98.0	<2.5	13.0

Subject to technical change. Performance data at an operating pressure of 6 bar.

TECHNICAL DATA

TECHNICAL DATA

PNEUMATIC

Our handy pneumatic impact wrench with little weight.

			PNEUMATIC	OPERATING PRESSURE 6 Bar	ATEX					
ORDER NO.	ATEX Specification	Square drive	for screws up to	Max. torque*	Air consumption	Distance center to outer edge	Hose ID	Noise level LpA	Vibration level	Weight
			mm	Nm	m³/min	mm	mm	dB(A)	m/s²	kg
6 1034 001C	II2GExhIICT6Gb	1/2"	M20	610	0.32	47.5	10	90.0	2.6	2.5

Subject to technical change. *applying on screw strength class 8.8 Performance data at an operating pressure of 6 bar.

PNEUMATIC

Our powerful impact wrenches with slim design.

			PNEUMATIC	OPERATING PRESSURE 6 Bar	ATEX					
ORDER NO.	ATEX Specification	Square drive	for screws up to	Max. torque*	Air consumption	Distance center to outer edge	Hose ID	Noise level LpA	Vibration level	Weight
			mm	Nm	m³/min	mm	mm	dB(A)	m/s²	kg
6 1316 005C	II2GExhIICT6Gb	**3/4"**	M30	1,350	1.40	45.0	13	96.0	4.5	5.6
6 1316 004C	II2GExhIICT6Gb	**1"**	M30	1,350	1.40	45.0	13	96.0	4.5	5.7

Subject to technical change. *applying on screw strength class 8.8 Performance data at an operating pressure of 6 bar.

PNEUMATIC

Our most powerful 1" impact wrench with second handle.

			PNEUMATIC	OPERATING PRESSURE 6 Bar	ATEX					
ORDER NO.	ATEX Specification	Square drive	for screws up to	Max. torque*	Air consumption	Distance center to outer edge	Hose ID	Noise level LpA	Vibration level	Weight
			mm	Nm	m³/min	mm	mm	dB(A)	m/s²	kg
6 1410 001C	II2GExhIICT6Gb	1"	M36	2,200	1.60	57.0	13	92.0	6.2	11.0

Subject to technical change. *applying on screw strength class 8.8 Performance data at an operating pressure of 6 bar.

PNEUMATIC HOSE

The pneumatic hose for air supply of the machine according to ATEX IIC atmosphere.

ORDER NO.	Description
9 3601 0430	Pneumatic hose ID19x6, 5 m length, incl. stainless steel claw couplings

EARTHING CABLE

Imperative for all ATEX IIC tools. The total length with gripper is 1.5 m.

ORDER NO.	Description
9 3707 0020	Earthing cable 1.5 m with grip

SUSPENSION BRACKET

The suspension bracket will be mounted directly on the sabre saw/impact wrenches.

ORDER NO.	Description	For type
5 1217 7080	Suspension bracket	5 1217 001C
6 1316 9020	Suspension bracket	6 1316 004C, 6 1316 005C
6 1410 9020	Suspension bracket	6 1410 001C

NIPPLE ASSEMBLY

The nipple will be mounted directly on the air inlet of the machine and is used for connecting the earthing cable.

ORDER NO.	Description	Connecting thread [mm]
9 2205 2330	Nipple assembly	R1/4"male - R1/4"female
9 2205 2340	Nipple assembly	R3/8"male - R3/8"female
9 2205 2320	Nipple assembly	R1/2"male - R1/2"female
9 2205 2350	Nipple assembly	R3/4"male - R3/4"female

RETAINING CHAIN

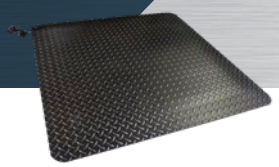
The retaining chain is used for suspension of the machine and protects the machine against unintentional falling down and possible sparking.

ORDER NO.	Description
9 4902 013C	Retaining chain complete, 3 m length, incl. one firebrigade hook
9 4510 0070	Firebrigade hook

SYSTEM ACCESSORIES

SYSTEM ACCESSORIES

ESD SAFETY MAT



Electrostatic dissipative safety mat with good non-slip characteristics
(R9 to DIN 51130 and BG rule BGR181).

ORDER NO.	Description
9 9911 0170	ESD safety mat, 91 cm x 91 cm x 1.4 cm, antistatic, incl. earthing cable

SERVICE UNIT

The service unit ensures the safe and wear-optimized operation of the machine.

ORDER NO.	Description
9 2406 065C	Service unit portable with protection housing G 3/4", incl. pressure regulator, water absorber and oiler
9 2006 0970	Ball valve assembly G 3/4" (incl. claw couplings)

ESD CARRYING CASE

Electrostatic dissipative carrying case with powder coating and antistatic inlay.

ORDER NO.	Description	For type
9 9910 006C	ESD Carrying case	2 1362, 2 2404, 5 1217, 3 6212, 6 1014, 61055/6/7, 6 1061, 6 1034, 6 1316, 6 1410
9 9910 011C	ESD Carrying case	5 6031, 5 1212, 5 8022, 2 2080

WATER COOLING

The water tank is used for cooling the working area at any type of operation (like cutting, drilling, etc.). The cooling reduces the heat and protects against sparks.

ORDER NO.	Description	For type
5 8002 9100	Water tank complete	all
5 1217 9200	Water cooling assembly	5 1217 001C

MULTI-OIL

The mutli oil cleans and protects the machine and ensures a reliable operation.

ORDER NO.	Description
9 9902 0120	Multi-Oil Spray for cleaning and protection

More accessories on request.

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SPITZNAS
CUSTOMIZED POWER SOLUTIONS

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