

SCITEQ

SCITEQ Axial Notch Milling Machine



We help you perform even better

Function Axial Notch Milling Machine

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Function

The purpose of this fully automatic SCITEQ Axial Notch Milling machine is to prepare test pipes by machining longitude notches in the outside surface.

Features

SCITEQ produces the axial notching milling machine with a precision second to none.

The machine is constructed to perform a notch at 60 degree angle. Milling tool dimensions $\varnothing 76.2 \times 12.5 \times 25.4$ mm double right angle milling cut at 700 rpm, at a speed of up to 150 mm per minute at a controlled depth in the pipe wall.

Standards

The SCITEQ axial notch solution complies with the below standards. Referring national, or sub standards referring to the below and others on request.

*Harmonized,
Standards:* EN ISO 12100-1
EN ISO 12100-2
EN ISO 13849-1
EN ISO 14121-1
EN ISO 60204-1

*Normative
references:* Machinery Directive
006/42/EC
2004/108/EEC
EMC Directive
Low voltage
Directive 2006/95/EEC



About Axial Notch Milling Machine

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Technical purpose

The test is determining the resistance to slow crack growth of polyolefin pipes, expressed in terms of time to failure in a hydrostatic pressure test on a pipe with machined longitudinal notches in the outside surface. The test is applicable to pipes of wall thickness greater than 5 mm and complies with the following pipe diameter configurations:

- Ø40 to Ø315 mm each test piece shall comprise a length of pipe sufficient to give a minimum free length of pipe of $(3dn \pm 5)$ mm between the end caps, when fitted for pressure testing in accordance with ISO 1167-2, where dn is the nominal outside diameter of the pipe.
- Up to Ø630 [mm] For pipes with a nominal outside diameter $dn > 315$ mm, a minimum free length of $(3dn \pm 5)$ mm shall be used where practicable; otherwise, a minimum free length of greater than or equal to 1 000 mm shall be used

Milling procedure

The cutter itself may not have been used on any other material and is to be replaced before 100 m of notching. The rotation of the notch is constructed in a way that it cuts from the surface of the pipe and downwards towards the top of the notch.

- The depth of the cut is the pipe wall thickness at the end of the pipe multiplied by 0.2.
- The length of the sample must be equal to the outside diameter of the sample or at least 125 mm.

The pipe is clamped using two pneumatic cylinders holding a solid clamping rod. The rod runs through the center of the pipe. The milling travel speed can be adjusted from the minimum allowable to the maximum allowable rates. Centering of the pipe is extremely important, and easily done by means of the pipe clamping fixtures.



Pipe rotater with automatic centering

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Safe & reliable

To ensure optimal safety when operating there is no direct access to the cutter during the notching procedure. The cutter moves up to the fixed pipe sample from below, preventing the operator physical access to the cutter.

The built-in operation light enables a clear view for close observation during the milling process. This light is manually activated.

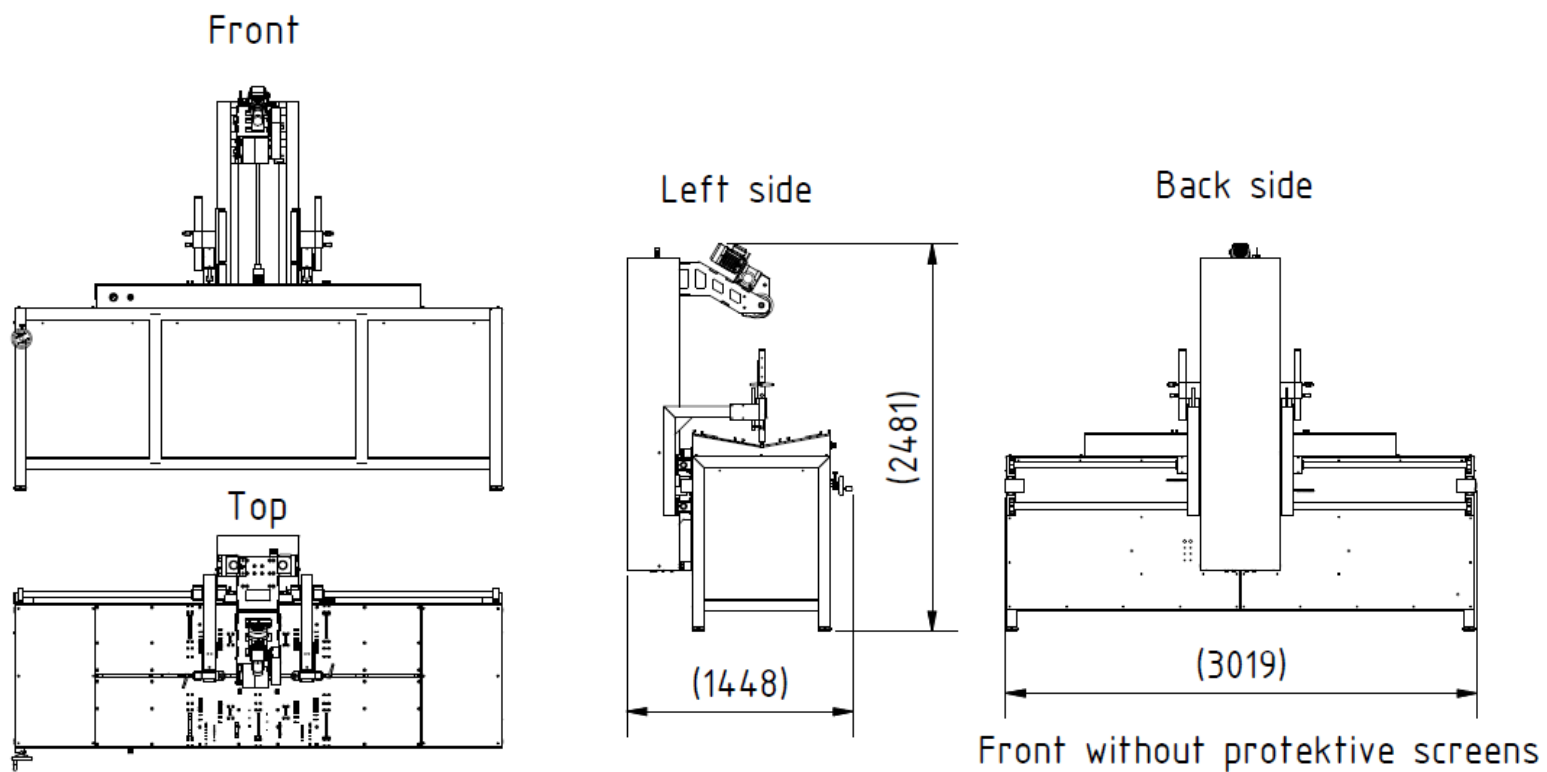
The remote control with touch panel is integrated in closed cabinet (floor model) for easy and safe remote operation. The intuitive and user friendly interface ensures reliable results in every automatic milling process.

Highlights

- ✓ High precision
- ✓ Automatic centering and clamping
- ✓ Easy to adjust acc. pipe sizes from DN40-630
- ✓ Automatic computing of the zero point of each milling
- ✓ Safe and intuitive operation
- ✓ Extremely durable design

Dimensions Axial Notch Milling Machine

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Dimensions

SCITEQ Axial Notch Milling machine

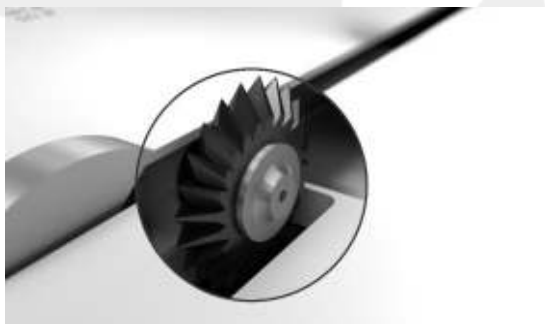
External dimensions: 3019 x 1450 x 2481mm
(LxWxH) + controller on stander.

Weight approx. 1150 kg.

Shipped and delivered in one colli, fully mounted.

Technical Specification Axial Notch Milling Machine

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Notch knife cutting from below



Clear marking dimensions for easy placement of samples

External dimensions, LxWxH [mm]	3019 x 1450 x 2481
Weight, machine only [kg]	Approx: 850
Weight, all included, vacuum suction, extra tool plate, etc. [kg]	Approx: 900
Pipe Outer dimension range (OD) [mm]	DN40-DN630
Wall thickness range [mm]*	Min: 5 / Max:100
Max. milling depth [mm]	20
Minimum pipe length [mm]	400
Maximum pipe length [mm]	1900
Maximum milling notch length at full depth [mm]	650
Rotation speed of miller at 50 Hz [RPM]	700 (Adjustable from touch screen)
Travers speed at 50 Hz [mm/min] (horizontal movement of miller)	200 (Adjustable from touch screen)
Cutting rate range (mm/r/tooth)	Approx: 0,005-0,03(Adjustable from touch screen)
Number of teeth on miller	24
Automatic 90° rotation of pipe	√
Automatic vacuum for plastic dust/leftover removal	√
Accuracy of milling depth	Within 0,2 mm.
Accuracy of milling length	Within 1 mm.
Complied standards	ISO13479:2010-01, ISO 1167-1:2006 & ISO 1167-2:2006

*Additional "pipe holder" pipe might be needed for wall thickness larger than 50 mm and according to ISO13479 some materiel shall be milled with a slot drill when wall thickness is greater than 50 mm.

Technical Specification Axial Notch Milling Machine



Controller with touch panel



Pressure gauge

Axial Notch	
Units available	Imperial and Metric (Inches and mm)
Language available*	English
Individual pipe recipe function	√ (up to 200 individual pipe recipe's)
Power supply**	3x 400 V + Neutral, 50/60 HZ (AC/DC protection relay required, due to frequency inverters)
Maximum power consumption	Approx: 1 KW, 1,6 A
Recommended fuse	10 A, (earth leakage circuit breaker (ELCB) must be AC/DC prepared)
Air supply [Bar]	4-7
Operating temperature [°C]	0-40
CE approval***	√
Operation panel	Color LCD touch panel, W320xH240 Pixels.

* Other languages available on request
** Other power supply's available at request
*** Machines can on request be produced with CSA and/or UL approved parts

Associated equipment Axial Notch Milling Machine

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SCITEQ SIGMA pressure series

The SCITEQ SIGMA Pressure Test system is the obvious choice to pressure test your pipes. The SCITEQ range offers solutions for perform pressure testing within the range of 1-400 bar, 2-100 l/min.

SIGMA is a modular solution configurable from 5 pressure stations up to 50 stations in one cabinet. Software ready for Industry 4.0 with intuitive web based control – available from any device, anywhere, any time.

Complete your pressure test solution with the SCITEQ thermo tank available in dimensions from 800x800mm to 3500x1850 mm conditioning samples from 0° to 95°. Endclosures, fittings and software completes the test setup.





Essential Accessories



End closures without tie-bar

ECO Line Thermo Tank inlet/outlets can be configured in various ways. Number of quick connectors for pressure supply acc. to as many samples per station as needed.



Hoses

SCITEQ is supplier of hoses to connect pressure stations to thermo tank or to samples. Supplied in different lengths according to need.

Associated Equipment



SCITEQ Lab saw

For preparing plastic pipe samples by making a parallel cut and chamfering edge. Conveyor with auto feeding. Pipe diam. from Ø32 mm to Ø630 mm



SCITEQ End closure mounting

& demounting machine.
For handling heavy large pipe samples and end closures up to Ø1600 mm conveniently and efficiently.



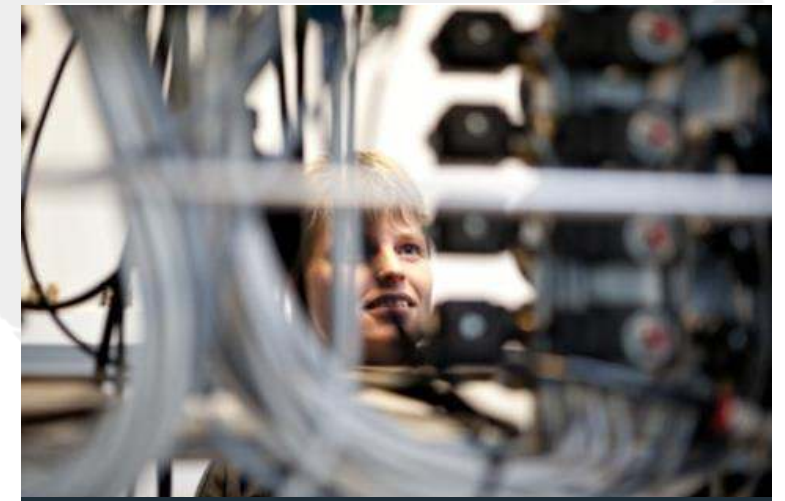
Installation & training

SCITEQ's trained service technicians perform onsite installation of your new SCITEQ equipment as well as onsite or remote training of your operating personnel who will be using the equipment.



SCITEQ Care

You will find the level of service suitable for your test setup with SCITEQ Care. SCITEQ service engineers will visit you annually to perform the best service and calibration. With SCITEQ Basic, More or All Care package you gain access to a long list of advantages, discounts and free support from SCITEQ skilled technician. [Learn more about SCITEQ Care](#)



Support online & on-site

SCITEQ offers online and on-site support on all SCITEQ products, for fast and effective problem solving, training, setup, etc. If you have an unforeseen challenge or you need advise asap, you can contact service@sciteq.com or call us for urgent support.