

Technical Data Sheet

PIPE FACING MACHINE 6

Diameter Range 6"



(sample picture)

Technical specifications may be subject to revision without prior notice.

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The Pipe Facing Machines are the fastest cutting, most versatile and user-friendly machines on the market today. Years of experience and the highest quality components are incorporated into every unit.

The machines are powered by a Hydraulic Power Unit (Diesel or electric engine) or built in power take of other hydraulic circuit such as pipelayer/excavator (no one adaptor is needed in this case).

The PFM machines are designed to machine the complex bevel required by automated pipeline welding systems;

in addition, the machines can be used for:

- producing clean, bright, perfect bevels for manual pipeline welding to maximize quality and minimize repairs,
- machining modified bevels on heavy wall pipes to reduce metal volume, therefore reducing welding time;
- machining transition tapers or counter bores when joining pipes of different wall thickness.

The machines have two major parts, the clamping section and the machining section. The clamp section has two sets of hydraulically powered clamping shoes that are designed to work equally and simultaneously.

The machine is secured to the pipe by expanding the clamp shoes inside the pipe.

The machining sections of the machine consists of a rotating faceplate with four to six tool holders each holding tungsten carbide cutting tips.

The tools can be set a wide variety of bevel designs and wall thicknesses. Each tool holder may cut a different bevel angle simultaneously.

The PFM operation take from 2 to 6 minutes depending on pipe wall thickness and the experience of the operator.

The following documentations will be supply with the machine:

USE AND MAINTENANCE MANUAL;

SPARE PARTS BOOK;

CE CERTIFICATION;

TEST REPORT.

1. STANDARD FEATURES

- High speed beveling;
- Quick adjustable from 6"
- Interchangeable clamp sections;
- The machine will be furnished with the clamp section to fit your project;
- Easily sets up to any bevel configuration;
- Repetitive, accurate bevels;
- Brush adapters eliminate both internal and external manual buffing, grinding or sanding;



2. GENERAL SPECIFICATION

Pipe range: 6"
Dimensions (cm): L 150 x W 100 x H 110
Volume: 1,65 m³
Working condition: - 25° - +50° C / Height 0 ÷ 3000 m
Oil type: ZS 46 or other upon request by customer
Main circuit pressure (bar): 170
Auxiliary circuit max. pressure (bar): 30 – 35

3. MACHINING SPECIFICATION

Approx cutting speed (min-max) 145 ÷ 182 mt/min
Number of Tool holders: 3 (each can fit one or two cutters)
Cutter Material: tungsten carbide cutting tips
Longevity of cutter: ≤ 40 end per piece
Wall thickness beveled (mm): ≤ 22
Bevel tolerance (mm): ± 0,1
Feeding system Hydraulic (one cylinder)
Feed rate (mm/sec): 0,02 ÷ 0,3
Hydraulic hose (not included): R2T 1"
R2T 1" ¼

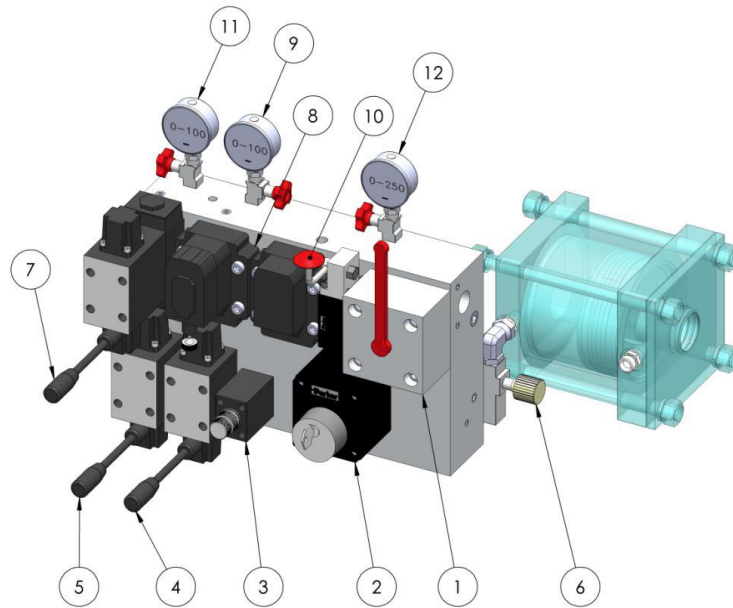
4. CLAMP SECTION

Mode of operation Hydraulic (two cylinders)
Clamp section set up Outer diameter and wall thickness
..... upon customer request

5. COMMON FEATURES

The hydraulic control panel consists in an aluminum alloy block on which the various hydraulic components are mounted used to adjust the operation of the pipe facing machine. The hydraulic control unit allows to:

- control the rotation of the mandrel;
- control linear movement of the mandrel;
- control clamping of the machine;
- control and verify pressure of the secondary circuit;
- verify the pressure on the hydraulic motor supply circuit;
- verify the pressure on the discharge circuit.



1) Mandrel control valve.

This valve has two positions that correspond to the start and stop of the mandrel rotation. In particular:

- lever in horizontal position = OFF;
- lever in vertical position = ON.

2) Rotational speed control valve.

This device changes the oil capacity intake to the hydraulic motors and, consequently, changes the angular speed of the mandrel. By acting on the knob in a clockwise direction, the speed decreases while by acting on the knob counter-clockwise the speed increases.

3) Automatic feed speed control valve.

This device adjusts the linear feed speed of the mandrel when, by way of the selector valves, the automatic feed has been activated. By acting on the knob in a clockwise direction, the speed increases while by acting on the knob counter-clockwise the speed decreases.

4) Manual/automatic feed valve.

This valve has two positions and allows enabling and disabling the automatic feed of the mandrel. With the lever in the down position, the automatic feed is enabled, and the speed is adjusted by the dedicated valve (valve "2"); vice-versa, with the lever in up position the speed regulator is by-passed and therefore the manual feed of the mandrel is enabled. The return of the mandrel is always fast.

5) Feed valve and mandrel return.

This valve allows moving the mandrel by positioning the lever in one of the three available positions:

- lever down = mandrel movement forward;
- lever in the middle = mandrel blocked;
- lever up = mandrel movement backward;

6) Manual feed adjuster.

This device allows changing, by acting on the knob, the manual forward movement and return of the mandrel.

7) Expansion control unit valve.

This valve controls the exit and re-entry of the small pistons of the expansion unit that ensure clamping of the machine inside the pipe to be bevelled. The three possible positions of the level are:

- lever down = extenders re-entry;
- lever in the middle = idle position;
- lever up = extenders exit;

8) Pressure reducing valve

This device ensures the correct static pressure value inside the expansion unit circuit (30-35 bar).

9) Secondary circuit pressure gauge.

This device is positioned downstream of the pressure reducing valve and it is used to verify the current value of static pressure inside the secondary circuit.

10) Emergency valve.

The emergency valve, if enabled by pressing the special red button, controls the direct discharge of the oil thus stopping the supply of oil to the hydraulic motors and thus ensuring mandrel stop.

11) Unloading pressure gauge.

This device is positioned on the exhaust of the hydraulic control panel and it is used to check that the exhaust is always free and thus that the static pressure is close to zero.

12) Hydraulic motor pressure gauge.

This device is positioned upstream of the intake of the hydraulic motors and it is used to check the static pressure value of the oil supplying the motors.

The pipe facing machine is a hydraulic operating machine. It can be fed in these ways:

A) with hydraulic power unit



B) with excavator / pipe layer without any other adaptor.

