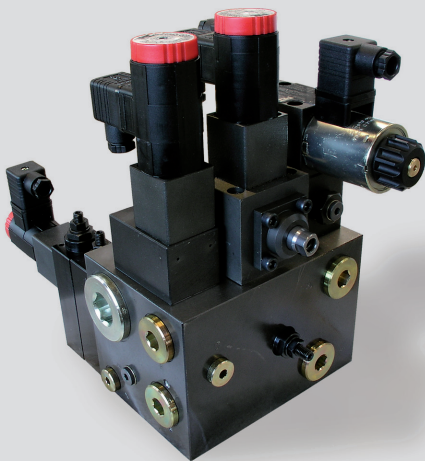


## Hydraulic Control Systems for Shearing Machines



### Design and Function

The shearing modules are optimum system drives for hydraulic shearing applications. Control design and function are very different to conventional solutions. An essential function characteristic is the main valve that works like a copy system in connection with the hydraulic hybrid drive. With this design the oil supply to the shearing cylinders is dependant on the cycle demands. Normally the pump is in operation and the accumulator provides back-up.

Normally the cutting speed of the shear is dependent on the flow rate of the pump. Contrary to conventional systems the cutting stroke is actuated with regenerative differential operation. With this feature the cutting speed is considerably higher,

and the cutting quality is better. If the required cutting force is excessive the regenerative operation is load dependant and will automatically turn off. At the same time the maximum shearing force is available.

During acceleration and deceleration of the shearing tool, the accumulator operation is working. The result of the accumulator operation is a very dynamic and at the same time providing smooth movement of the shearing bar. The application of the hold down clamp also works with the accumulator system. The controlled hydraulic automatic sequence system will reduce the non productive time to a minimum.

## Features

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- cycle dependent hybrid drive
- optimum motion run off
- regenerative differential operation
- higher cutting speed
- proved copy system
- simple cutting angle change
- hydraulic automatic sequence system
- shortest nonproductive time

## Technical Data

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- working pressure accumulator: 70 bar
- max. working pressure HD: 280 bar
- max. pump size I: 50 l/min
- max. pump size II: 100 l/min
- max. pump size III: 180 l/min (optional 250 l/min)

## Options

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- unpressurized motor start (star-delta connection)
- adjustable holding-down clamp force
- hydraulic bar lock security (modul size II)

## Quotation

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- shearing modul I – CP497...  
Q<sub>max</sub> pump – 50 l/min
  - shearing modul size II – CP477...  
Q<sub>max</sub> pump – 100 l/min
  - shearing modul size III – CP487...  
Q<sub>max</sub> pump – 180 l/min\*
- \* option till 250 l/min

## Example for Application

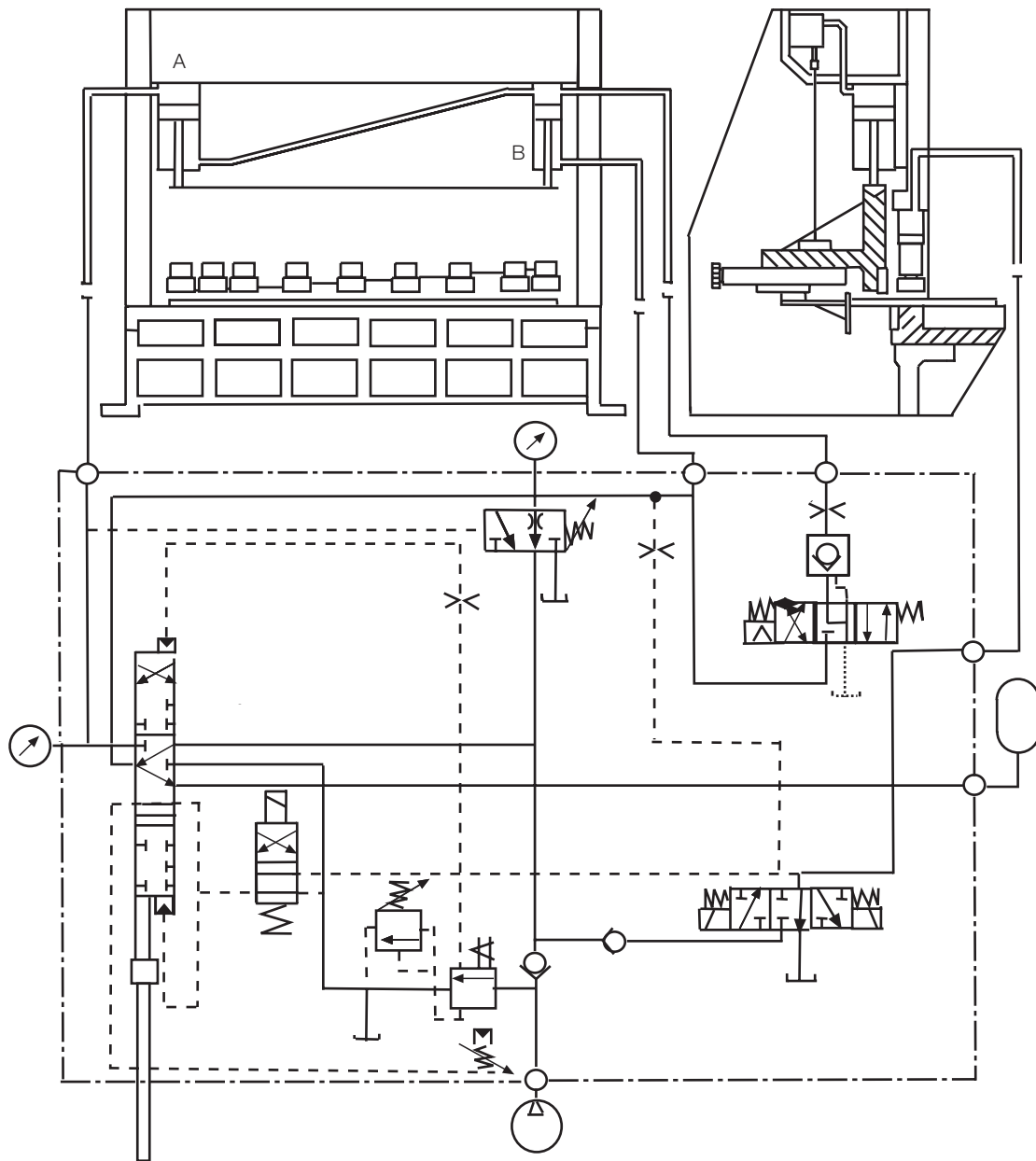
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Shear 3m / 5mm sheet thickness

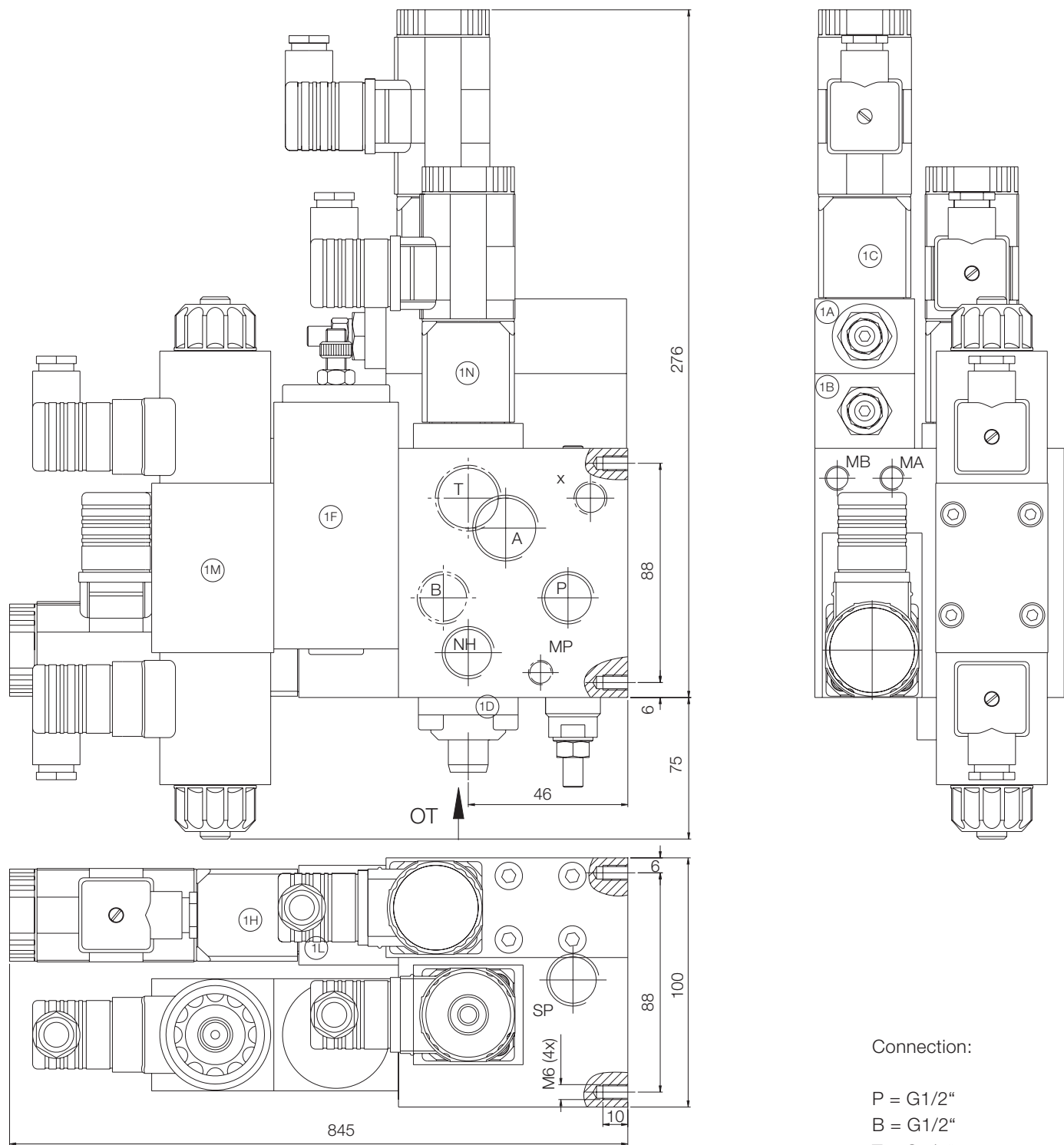
- shearing cylinder: 1. Ø 95 / Ø 50  
2. Ø 75 / Ø 45
- holding-down clamp cylinder: 17x Ø 25 mm - 16 mm stroke
- pump capacity: 38 l/min
- motor output: 1 1kW

Cutting angle	Cycles/min
0,5°	75
1,0°	55
2,0°	35

# Function Principle Shear Modul for Shearing Machines



Basic Dimension Drawing Size I Shearing Modul CP 497

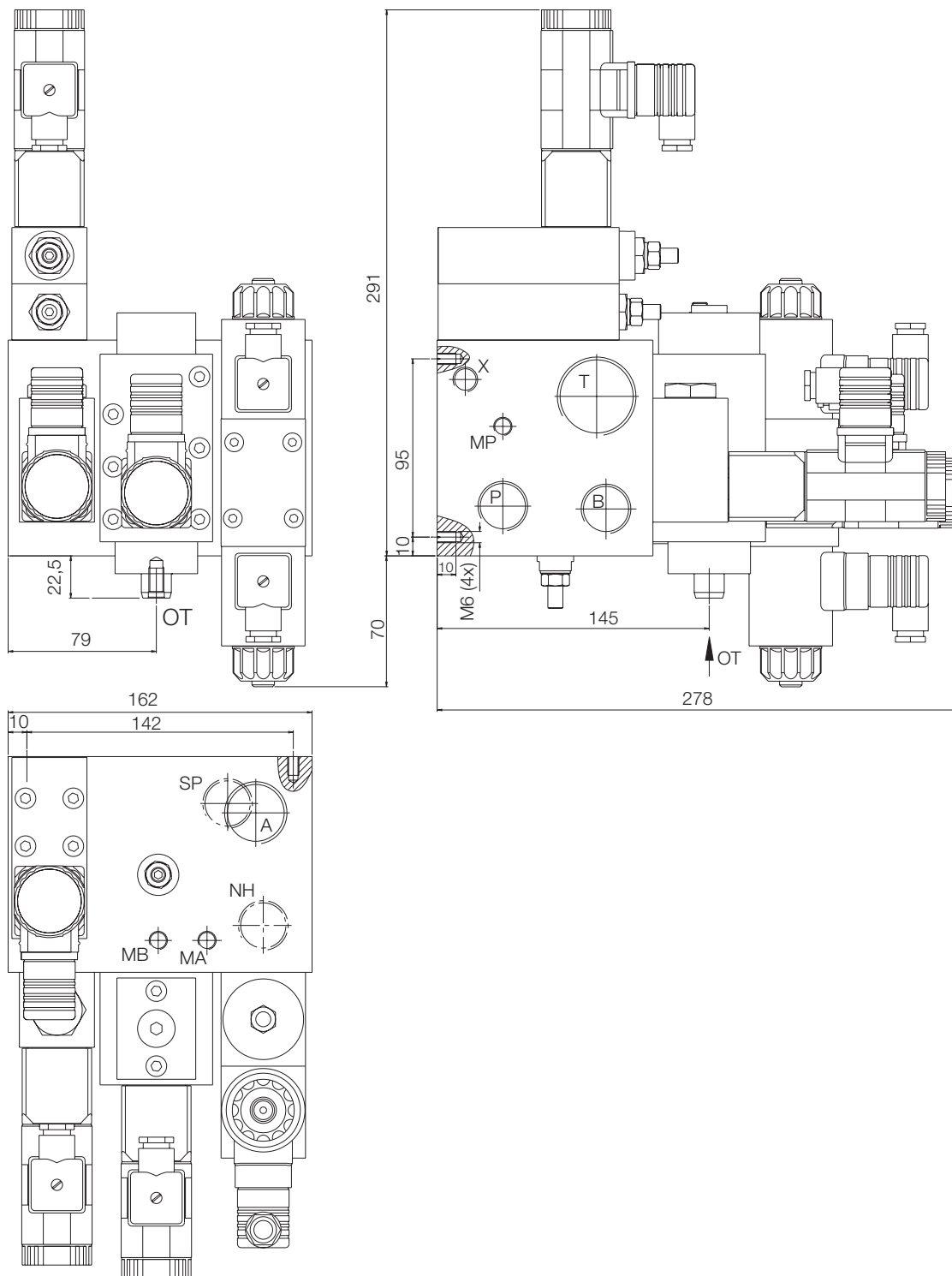


Connection:

- P = G1/2"
- B = G1/2"
- T = G3/4"
- MP = G1/8"
- A = G3/4"
- SP = G1/2"
- MA = G1/8"
- MB = G1/8"
- NH = G1/2"
- X = G1/4"

all dimensions in mm

Basic Dimension Drawing Size II Shearing Modul CP 477

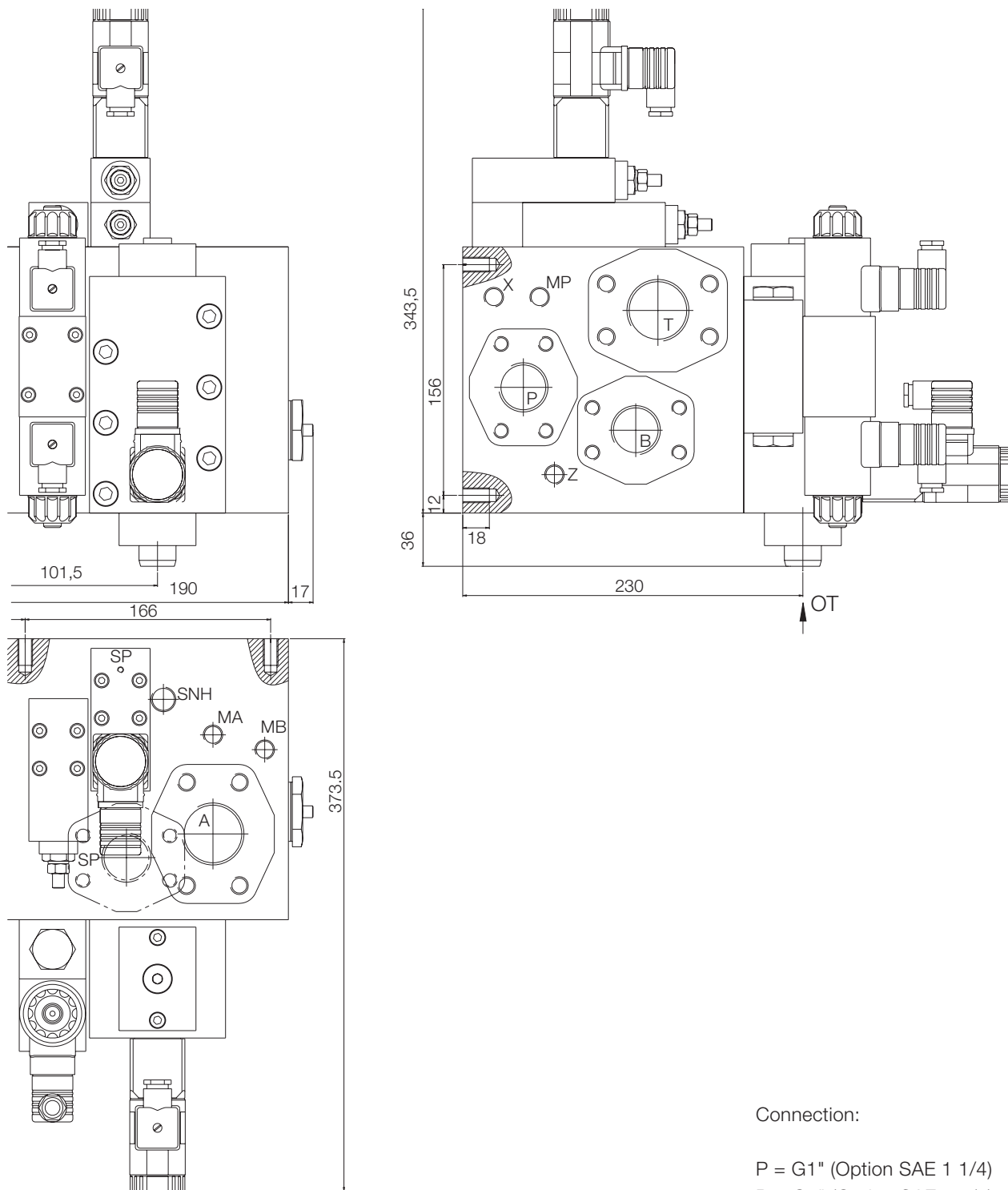


Connection:

- P = G3/4"
- B = G3/4"
- T = G1 1/4"
- MP = G1/8"
- A = G1"
- SP = G3/4"
- MA = G1/8"
- MB = G1/8"
- NH = G3/4"
- X = G1/4"

all dimensions in mm

Basic Dimension Drawing Size III Shearing Modul CP 487



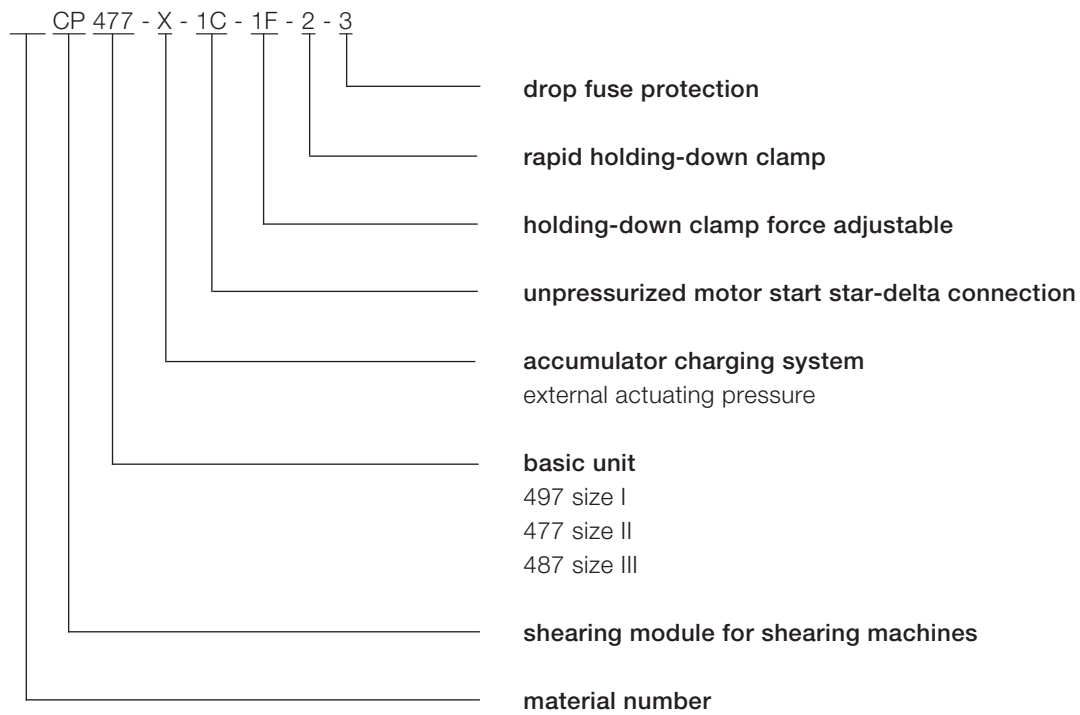
Connection:

- P = G1" (Option SAE 1 1/4)
- B = G1" (Option SAE 1 1/4)
- T = G1 1/4" (Option SAE 1 1/2)
- MP = G1/4"
- A = G1 1/4" (Option SAE 1 1/2)
- SP = G 1" (Option SAE 1 1/4)
- MA = G1/4"
- MB = G1/4"
- SNH = G3/8"

all dimensions in mm

## Type Code

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