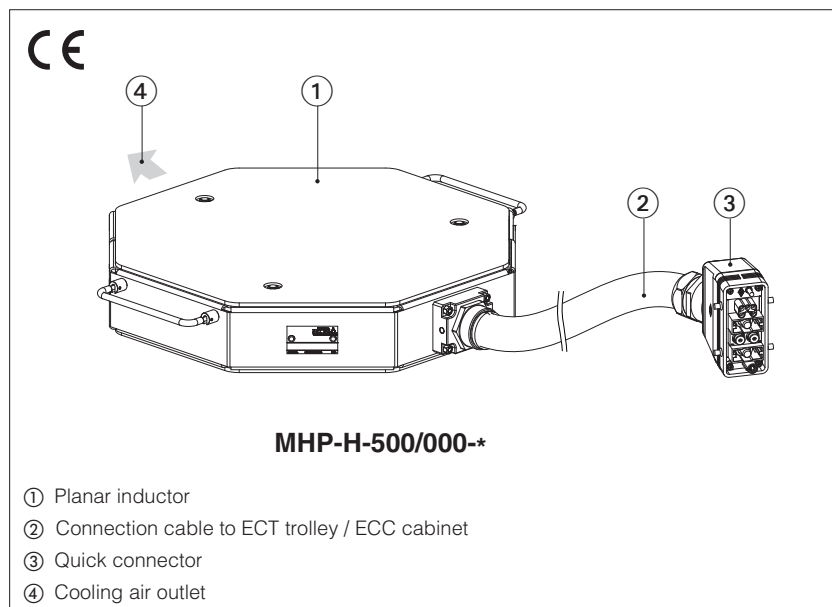


Mold heating plates

pre-heating of molds for metal and rubber presses



MHP

Inductive plates with rugged design, made with high-strength elements to operate in harsh environments.

Mold Heating Plates (MHP) are managed by ECT trolleys or ECC cabinet, using the principle of magnetic induction to heat ferromagnetic material in contact with.

Inductive plates provides substantial benefits over the pre-heating by ovens or open flames:

- Fast and uniform heating up to 350°C
- Elimination of the risks related to hot molds handling or combustible gases in production facilities
- Easy to use, simply place the plate in contact with the mold
- Automatic process control, without need of the operator supervision

MHP are available in different dimensions to fit various shapes and dimensions.

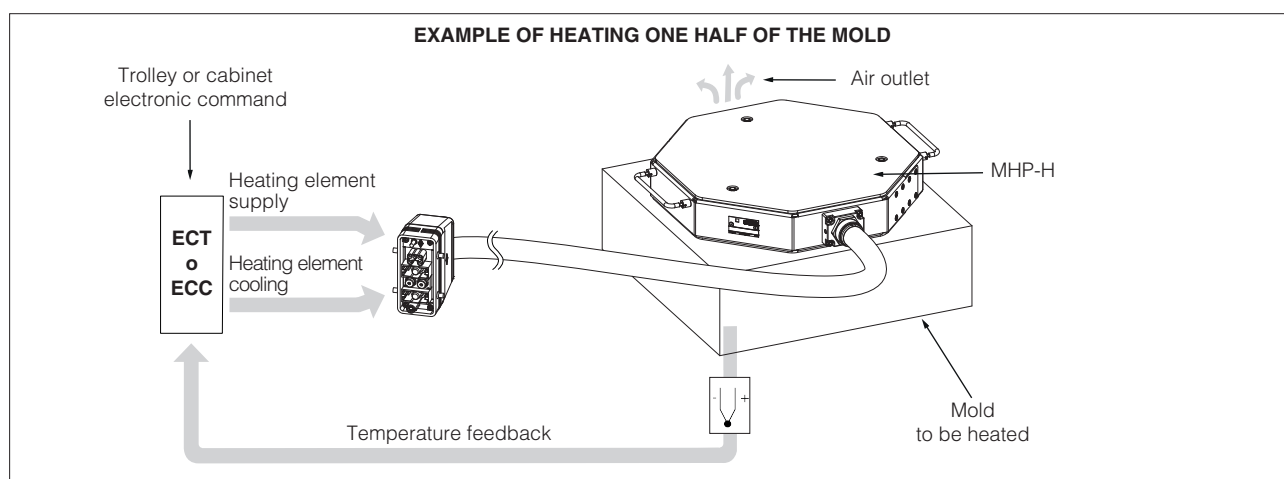
1 MODEL CODE

MHP	-	H	-	500	/	150	-	03	20
Mold heating plate									Series number (1)
Size				Length of connection cable					
L = for external dimensions up to 350 mm				03 = 3m (extendable on request in +1m steps)					
H = for external dimensions > 350 mm									
External dimension				Internal diameter					
*** = From 200 mm to 800 mm with step 50 mm				000 = without hole					
				*** = only for size H , from 100 mm to 400 mm with step 50 mm					

(1) MHP series 20 is compatible exclusively with ECC and ECT series 20.

Note: for external dimensions not included in the standard dimensions shown above, contact Atos Induction technical office.

2 FUNCTIONAL EXAMPLE



3 FUNCTIONAL DESCRIPTION

The preheating of the molds can be done quickly and safely through inductive heating transmission, placing the plate on the surface to be heated. During the heating process, heat is generated directly inside the mold through the circulation of eddy currents, induced in the metal by suitably modulated magnetic fields. This results in reduced warm-up times and improve process efficiency. Furthermore, the use of combustible gases in production plants and the associated dangers are avoided.

4 MHP/MOLD COUPLING

The power transferred by the inductor depends on the magnetic coupling between the MHP and the mold. Irregular mold geometries (with deep and extended grooves), presence of air gaps and waven contacts between MHP and metal may result in poor magnetic coupling, reducing heating speed and uniformity. For this reason the best energy transfer is provided when the MHP is in contact or in close proximity (few mm) with flat and smooth molds.



The installation of MHP is intended with ferromagnetic molds for rubber, plastic and aluminum applications. For other applications, please contact the Atos Induction technical office.

5 MAIN CHARACTERISTICS

Power supply device	ECT (trolley) or ECC (cabinet)
Max power [kW]	15
Working frequency [kHz]	4 ÷ 15
Max heating temperature of the mold	350°C on the surface of the mold, in contact with the plate
IP protection degree [CEI EN 60529]	Not applicable, avoid contact between MHP and liquids
Cable insulation class	Class H
Electromagnetic emissions [EN UNI 12198]	The use of the blankets is comparable to a Class 1 source

6 INSTALLATION PRESCRIPTIONS

MHP must be connected to the electronic command systems through the quick connector, which include the connections for power supply of the inductor and the passage of compressed air for cooling, coming from the power supply device.

In the case of horizontal installation for two-stage heating, the upper half of the mold has to be placed in contact with the MHP, through suitable supports in order, to prevent its weight from damaging the heating element.



Series 10 MHP (MHP-H-*/-*-10) are compatible exclusively with series 1 EC* (EC*-H-*/-*-10) and series 20 MHP (MHP-H-*/-*-20) are compatible exclusively with series 20 EC* (EC*-H-*/-*-20). No cross compatibility is now available.



Always remove the MHP from the hot mold at the end of the heating cycle

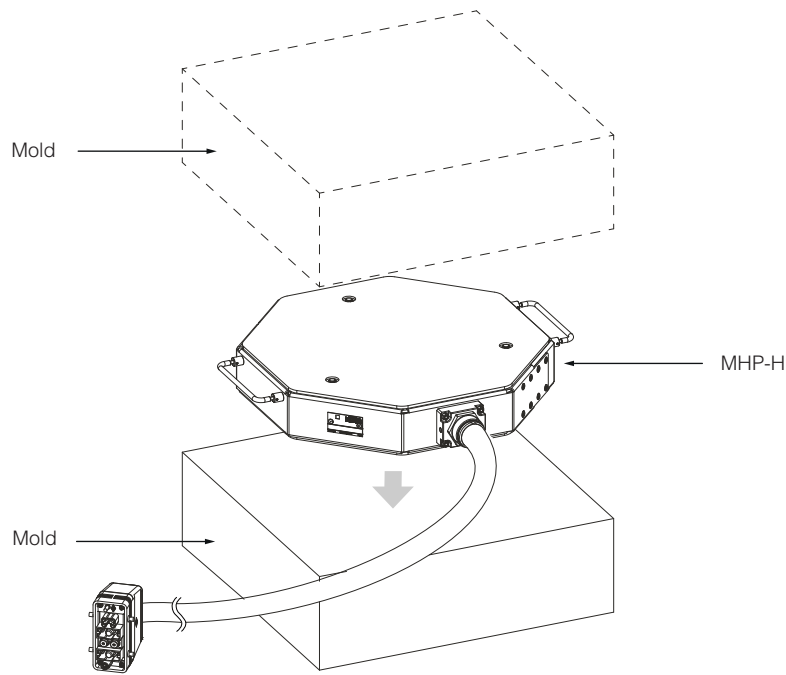


During MHP handling, is recommended use of personal protective equipment suitable for high temperature.

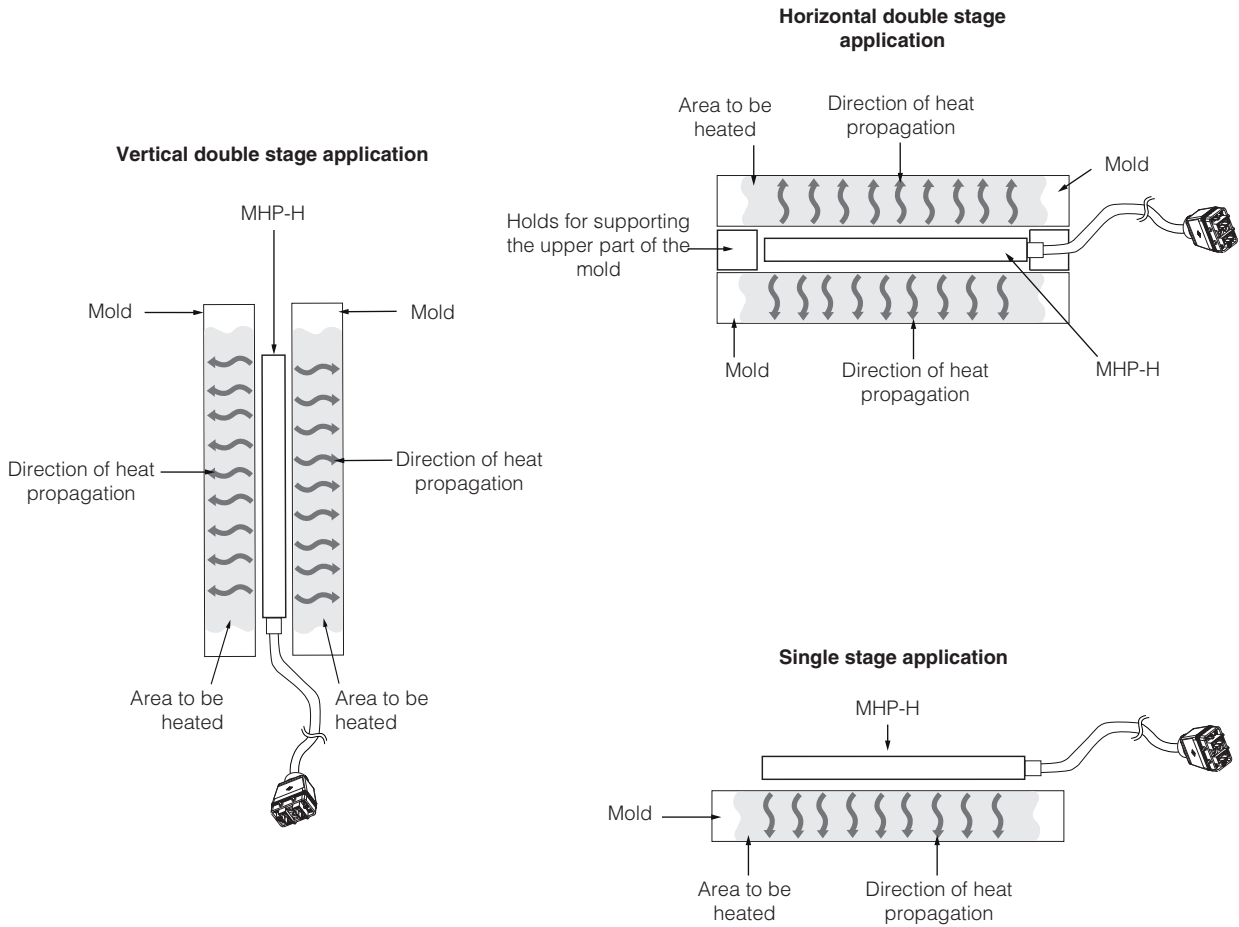


Avoid bending radius of the connection cable smaller than 15 cm

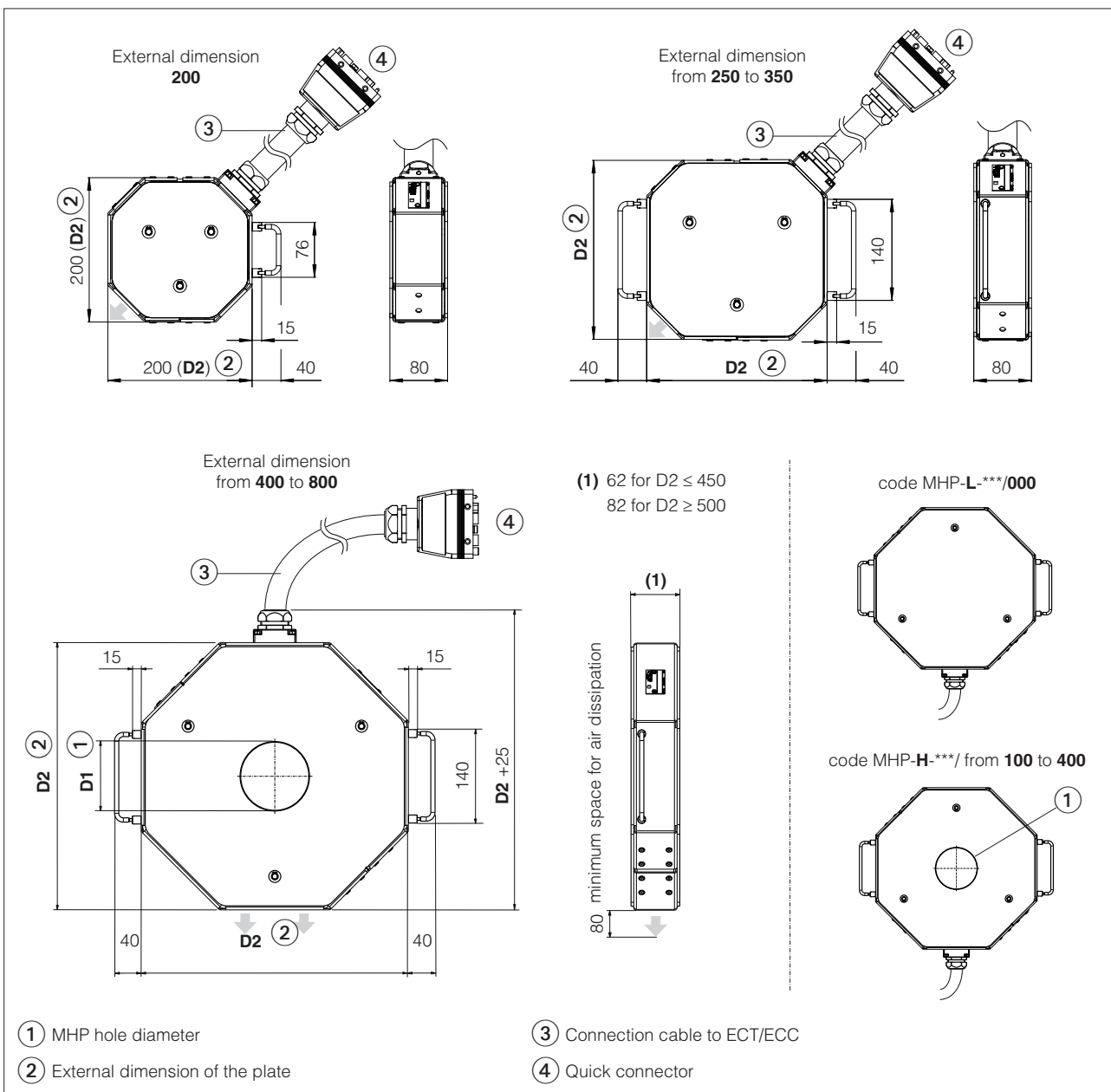
DOUBLE STAGE APPLICATION EXAMPLE



EXAMPLES OF MHP PLATE POSITIONING



7 DIMENSIONS [mm]



8 POSSIBLE COMBINATIONS OF AVAILABLE DIAMETERS

The table shows the possible combinations of external dimensions and internal diameters available for MHP plates.

= Available plates

= Plates available on request

		D2 external dimension [mm]												
		200	250	300	350	400	450	500	550	600	650	700	750	800
D1 internal diameter [mm]	000													
	100													
	150													
	200													
	250													
	300													
	350													
	400													

10 RELATED DOCUMENTATION

AI710 - Electronic control systems ECT and ECC