



Pneumatic Rigid Arm Manipulator



PM Forceful Rigid Arm Manipulators are designed for **stable and controlled transport of loads under weightless conditions**. They are especially characterized by the **safe handling of off-set loads and vibration-free operation**.

Maximum Safety – Brake and safety systems compliant with CE standards

Off-Set Load Handling – Stable balance with asymmetrical load distribution

Vibration-Free Transport – Smooth, shock- and vibration-free movement

Weightless Operation – Nearly zero operator effort thanks to pneumatic balancing

Precise Positioning – Micro-adjustments and full control in all directions

Drift Control – Special brakes ensure secure stopping

Flexible Mounting – Floor, ceiling, or rail-mounted configurations available

Gripper Options – Standard hooks or customized gripping tools

Operates with dry, filtered (40µm), oil-free compressed air at min. 0.7/0.8 MPa

Max. load capacity: **450 kg**, max. working radius: **4.000 mm**, vertical stroke: **2.450 mm**

Air consumption per cycle: **50–200 NI**

Mounting Options

Forceful Column Mounted FY



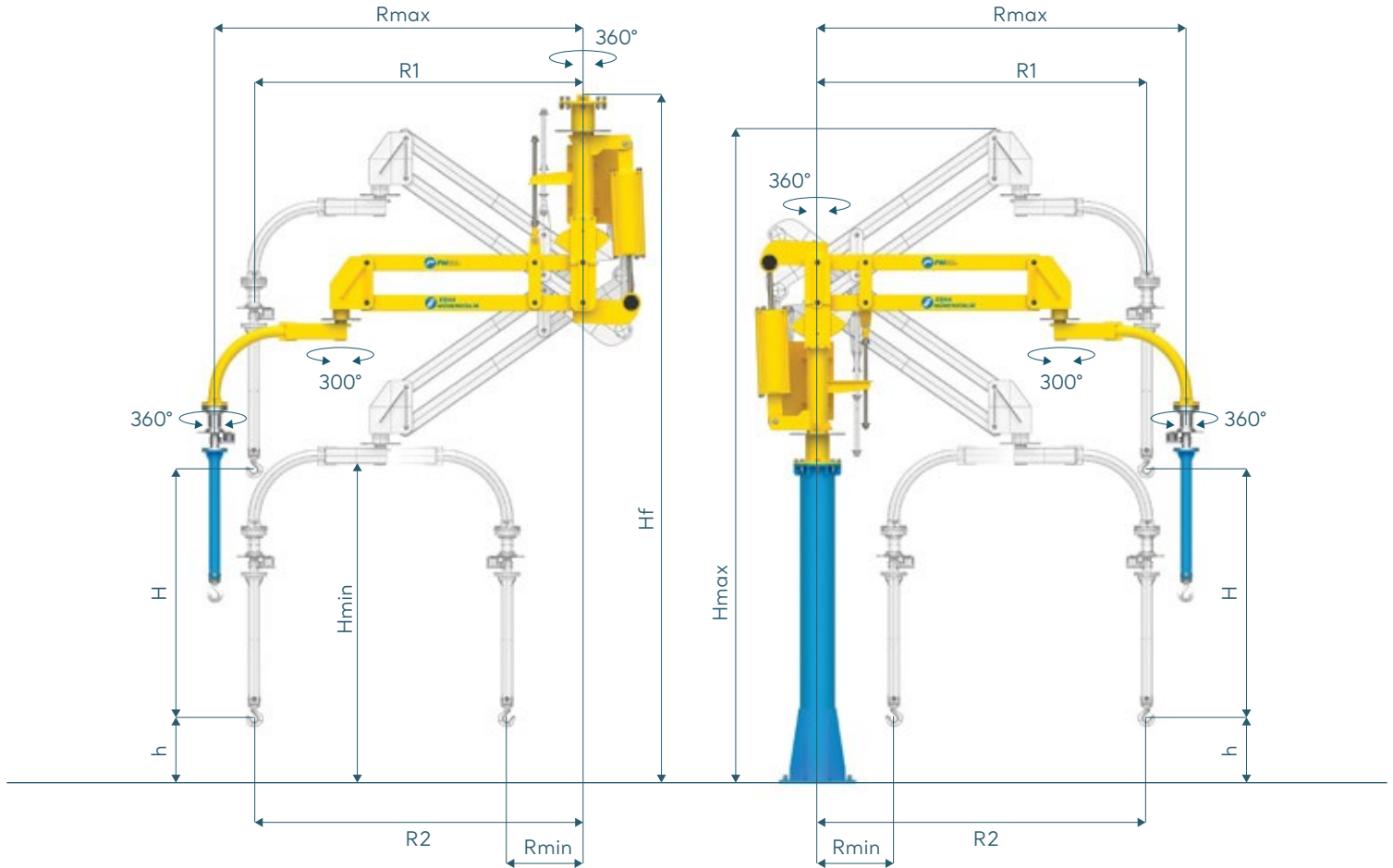
Forceful Overhead Mounted FT



Forceful Overhead Rail-Mounted FTA



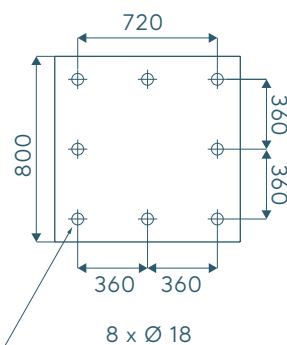
Forceful Technical Details



Maximum Load Capacity [kg]

		450	300	215	150	100
Max. Working Radius [mm]	Rmax	2000	2500	3000	3500	4000
Min. Working Radius [mm]	Rmin	675	870	920	1015	1160
Vertical Stroke [mm]	H	1300	1700	2000	2400	2450
Min. Pick-up Height [mm]	*h	200	200	200	200	200
Max. Manipulator Height [mm]	*Hmax	3860	4070	4225	4420	4610
Max. Ceiling Mounting Height [mm]	*Hf	4100	4100	4800	5000	5000
Lower Edge of Main Body [mm]	*Hmin	2000	2000	2000	2000	2000
Working Radius at Top Position [mm]	R1	1750	2170	2610	3035	3465
Working Radius at Bottom Position [mm]	R2	1750	2170	2610	3035	3465

* Dimensions may vary depending on customer-specific requirements.



Base Plate Dimensions [mm]

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