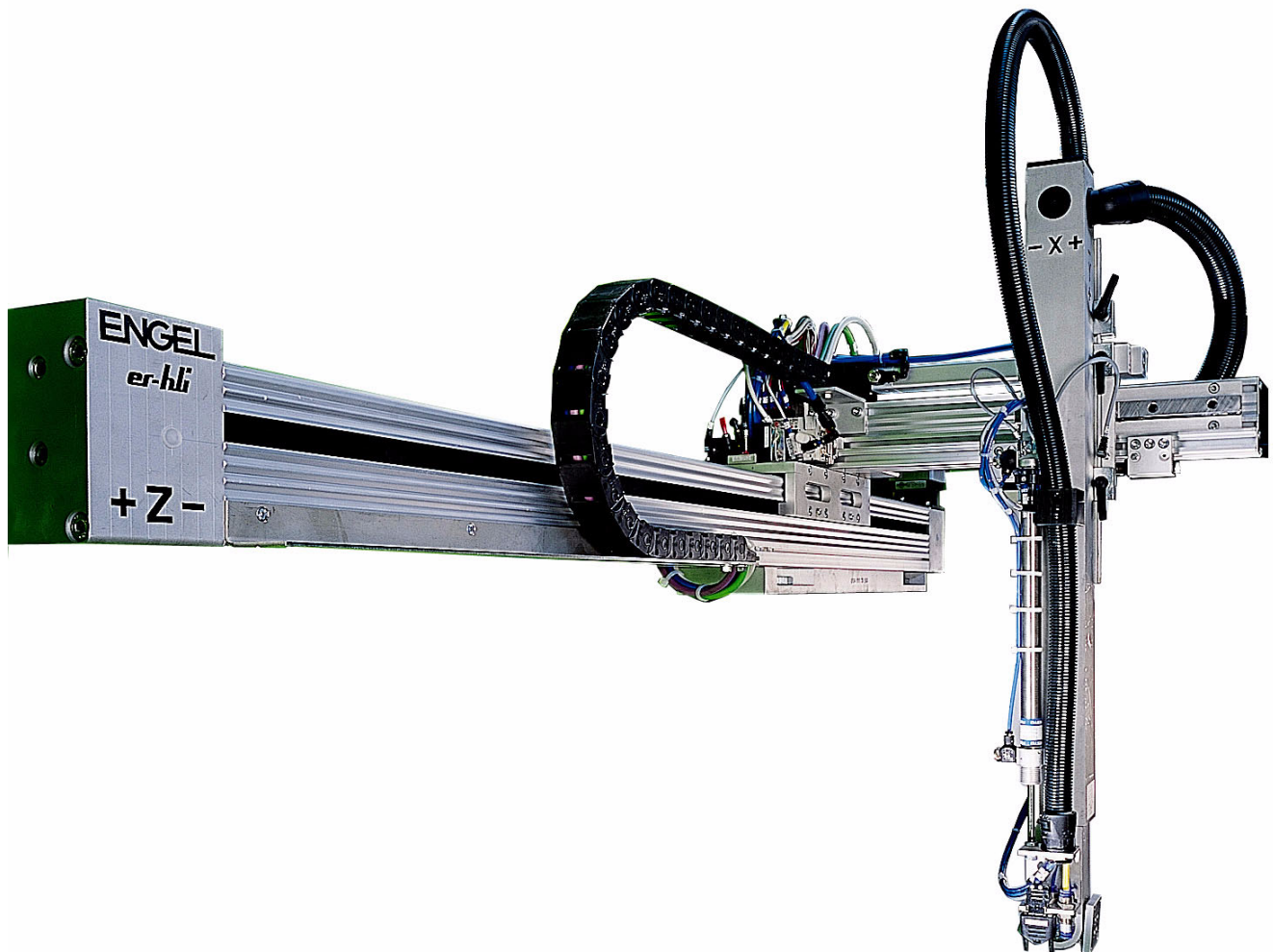


be the first.



Technical data

ER-Hli 21, 31, 41, 51, 61, 71, 81, 91
VICTORY / EMOTION

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ENGEL
roboter

STANDARD EQUIPMENT

Mechanics

- Take-off device integrated into the IMM completely, this means: moving IMM safety gate operator rear side in widened construction, IMM with safety gate open above, no additional floor space of robot or conveyor-belt required on the floor
- optimum operator accessibility to the IMM mould and handling system setting by manually displaceable conveyor-belt in IMM longitudinal direction
- Mounting on the stationary mold fixing platen (STANDARD)
- Depositing of the parts on a stepped conveyor-belt on the operator rear side of the injection moulding machine
- All linear axes with hardened and ground linear guides

Z-axis

- freely positionable linear axis (with maintenance-free, digital rotary current servo drive and force transmission by means of toothed belt)

X-axis

- actuated pneumatically with cylinder
- adjustable manually within a certain area
- rear and front end position adjustable independently of each other

Y-axis

- actuated pneumatically with cylinder
- upper end position (take-off position in the IMM) for the take-off of parts adjustable manually over and under nozzle middle
- lower end position is suitable for stacking parts

C-axis

- actuated pneumatically with cylinder - 2 positions 0°/90°

Pneumatics

- Air maintenance unit with hand slide valve
- central valve ramp
- 1 Vacuum circuit (sucker function) can be switched over manually to 1 gripper circuit
- Vacuum monitoring (STANDARD)
- Connection for monitoring of parts
- Vacuum production via Venturi nozzle

CONTROL SYSTEM - ELECTRIC SYSTEM

- Control system integrated into IMM
- automatic storage of the settings with the machine data
- Operation via IMM operation terminal
- Error display and diagnostics via machine screen
- 8 practice-tested take-off programmes are to choose from
- Rejects and quality part depositing
- Depositing position can be set separately for each gripper
- Positions and parameters adjustable via machine screen
- vertical stacking of parts via key limit switch
- Sprue take-off and sprue depositing
- Status display
- Depositing of parts in screen (X-axis 2 positions; Z-axis freely adjustable)
- Minimization of the take-off time by robot early start
- Servo drive with CAN bus actuation
- Help texts for the control unit
- Inputs/outputs via CAN-Bus
- Push-buttons on machine control console
- 1 stepped conveyor-belt
- no separate HBG
- electric connection to the machine RC100-compatible (ERC interface)
- Connection of the gripping and suction elements via pneumatic quick-action couplings

SPECIAL EQUIPMENT

Mechanics

- Mounting on the moving mold fixing platen
- max. 3 vacuum circuits (sucker function) can be switched over manually to 3 gripper circuits
- Z-axis extension (Z)
- X-axis extension (XV)
- Quick-change system for takeover head: manual
- Support for Z-axis extension
- GRIP TOOLS: Modular system for takeover head
- Sprue gripper
- Pneumatic single grippers
- Protection fence according to EN 294
- Y-stroke stacking on the conveyor-belt (with keying limit switch)
- Pneumatic A-axis two swivelling variants: 0°-90° and +90°/0°/-90° (only for 61-91)
- Conveyor-belt free-standing

Pneumatics

- Vacuum pump instead of Venturi nozzle

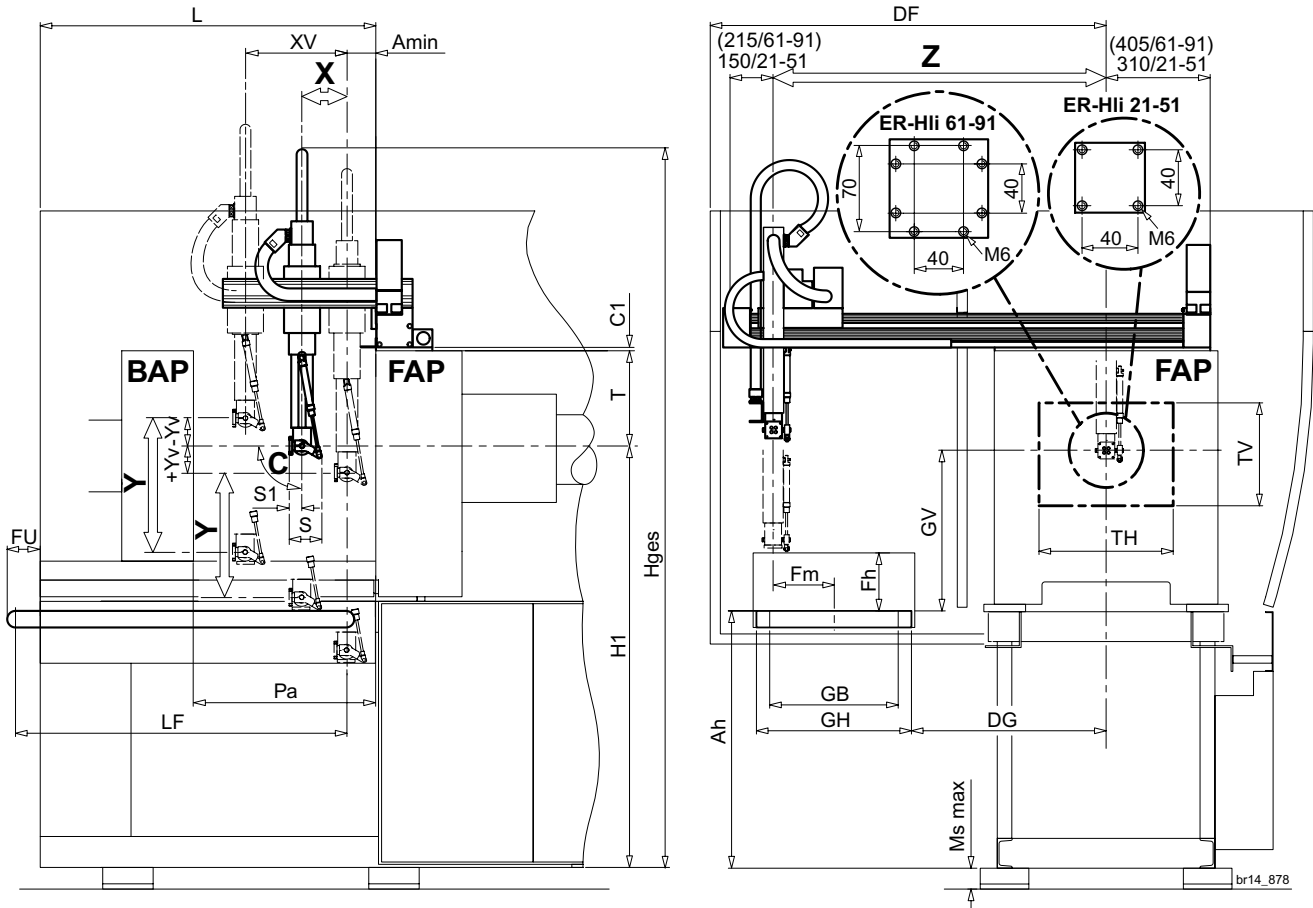
Electric system

- Special programs via additional software
- reversable conveyor-belt (for sprue or rejects depositing)
- Clearing circuit for conveyor-belt
- Robot control cabinet with air conditioning unit
- Clearing circuit for conveyor-belt (with foot operated switch)
- Clearing circuit for conveyor-belt (with light beam guards)

TECHNICAL DATA

TYPES		ER-HLI 21 - 51	ER-HLI 61 - 91
X-AXIS demolding stroke	mm	20-150	20-250
X-AXIS axis extension (XV)	mm	max 600	max 800
X-AXIS drive		pneumatic	pneumatic
Y-AXIS vertical stroke	mm	250	350
Y-AXIS drive		pneumatic	pneumatic
Z-AXIS cross transport		see table	see table
Z-AXIS axis extension (Z)		max 2000	max 3000
Z-AXIS force transmission		Tooth belt	Tooth belt
Z-AXIS Vmax.	m/s	2	2
Z-AXIS drive		Three-phase servomotor	Three-phase servomotor
Swivelling moment	Nm/bar	3,5 / 5	7 / 5
manipulateable material max. (C-axis)	kg	2	5
Repeatability	mm	± 0,1	± 0,1
Air consumption per cycle ^a	l	8	8
Transport weight robot	kg	approx 65/75/85/95	approx 130/150/170/190
Transport weight control cabinet	kg	65	65

a. 15 sec. cycle with 40% duration of connection of a suction circuit at 6 bar



TYPE	IMM DATA				INJECTION MOULDED PART		ER-HLI AXIS DATA							TYPE	
	H1	Hges	Ms max	L	TV max	TH max	X		Y		Z	C			
							X	XV	Y	±YV	Z	S1	S		
															21
															31
EM 55	1330	2260	71	1855	400	340	150	300	250	100	1100	35	90	41	
EM 100	1330	2330	71	2525	470	340	150	400	350	120	1200	35	90	51	
															61
															71
															81
															91

TYPE	CONVEYOR BELT										SYSTEM DATA				TYPE
	GB	GH	Ah	DG	FU	LF	Fh	Fm	Pa	GV	T	C1	Amin	DF	
															21
															31
EM 55	350	420	1080	765	244,5	2400	300	125	620	250	250	80	100	1355	41
EM 100	350	420	1080	850	274,5	3100	300	140	840	250	350	30	100	1460	51
															61
															71
															81
															91