

Two ranges of 6-CNC axis robots

For IMM from 20T to 5000 T



SEPRO
X YASKAWA

SEPRO
X STÄUBLI

Sepro is innovating and offering two complementary ranges of 6-axis robots:

- The **Sepro-Stäubli** range for equipping IMM from 20 to 1300 T
- The **Sepro-Yaskawa** range for equipping IMM from 20 to 5000 T

Both these ranges use the Visual control platform which allows easy and equal programming of 3, 5 or 6-axis robots and provides access to Sepro Service worldwide.

The Visual control of 6X robots can be implemented in the control system of the injection molding machines from manufacturers who cooperate with Sepro by means of Agile Integration.

SEPRO
X YASKAWA

- 6X-70
- 6X-140
- 6X-170
- 6X-205
- 6X-270
- 6X-315
- 6X-400

SEPRO
X STÄUBLI

- 6X-60
- 6X-90
- 6X-160
- 6X-200

YOUR FREE CHOICE IN ROBOTS

POLYARTICULATED 6-AXIS ROBOT OR CARTESIAN 5-AXIS ROBOT, THE CHOICE OF ADDITIONAL ROBOT FOR ALL SIZES OF INJECTION MOLDING MACHINES

6X Visual is a range of polyarticulated robots with 6 CNC axes that are simple to program thanks to Visual 3, especially designed for all your injection molding applications.

5X Line and 7X Line are Cartesian robots with 5 CNC axes made for complex applications and are easily operated with Visual 3. The 5-axis robots are Sepro design and equipped with R1 + R2 rotation from the Stäubli 6-axis robots.

Sepro is expanding the range of robotics in the plastics industry with original and unique alliances that offer a winning choice by proposing two additional 6X Visual ranges:

- With Stäubli polyarticulated robots for equipping 20 to 1300 tonne injection molding machines and marketed under the Sepro-Stäubli brand.
- With Yaskawa Motoman polyarticulated robots for equipping 20 to 5000 tonne injection molding machines and marketed under the Sepro-Yaskawa brand.



THE POWER OF A 6-AXIS POLYARTICULATED ARM AND THE SEPRO VISUAL 3 CONTROL PLATFORM

6X VISUAL is the power of a 6-axis polyarticulated arm and the Sepro Visual 3 control platform. 6X Visual are 6-axis polyarticulated robots, designed to equip your injection molding machines and/or post processing parts outside of the IMM.

6X Visual are 11 sizes of versatile robots to meet the specific needs of the plastics industry.

For simple unloading or complex path tracking applications, implementing the polyarticulated 6-axis is as easy and quick as for a 3-axis, thanks to the power and ease of Visual 3.

These robots are used for unloading directly from the IMM or on peripherals for post processing of plastic parts.

SEPRO INTEGRATION

Sepro-Stäubli and Sepro-Yaskawa 6X Visual robots have Sepro plug and play integration with the Visual 3. Vacuum and pressurized pneumatic circuits and digital inputs and outputs are available on the end of arm connectors.

The EUROMAP 67 interface is standard.

A fast mechanical Sepro interface is offered as an option.

Integrated in automation projects by the Solution by Sepro team, 6X Visual robots enable expansion of the perimeter of automation around injection molding machines.



6X AND VISUAL 3, THE PERFECT COMBINATION FOR A UNIVERSAL, AUTOMATION SOLUTION

- The speed and precision of Stäubli articulated arms for the most complex applications.
- Easy programming and use thanks to the Visual 3 control system.
- For Sepro customers already familiar with the Visual environment, a short training course is sufficient to use an installation with a polyarticulated robot from the 6X Visual range.



THE ASSURANCE OF HIGH PERFORMANCE AND SIMPLICITY!



High Performance

The standard Path Tracking function can be used to demold undercut parts following curved paths, or flame treat parts.

Thanks to the fast 20 ms PLC function, you can check intelligent peripheral systems, including external CNC axes.

Use the Software pack on your PC to create, edit and manage your programs in a Windows environment.

The Digital vacuum switch is available as standard on Visual 3 to program and save your part grip settings for each mold.



Really Simple - It's so easy

- See what you're creating in 3D: with the Simple Pick-and-Place module, create your cycle by answering the questions the system asks you and see the result immediately in 3D on the video.
- When fine-tuning, the Joystick makes delicate settings in the mold possible.

Make your daily routine easier

Consult the online documentation in full screen mode at any time.

Transfer information from one team to another using the notepad function.

Thanks to the USB key, operators, setters, programmers and maintenance staff have direct access to the relevant data.

Troubleshooting assistance from Sepro's Hotline: with the USB key, download and send the relevant information via internet for remote assistance.

SEPRO-STÄUBLI - HIGH END TECHNOLOGY

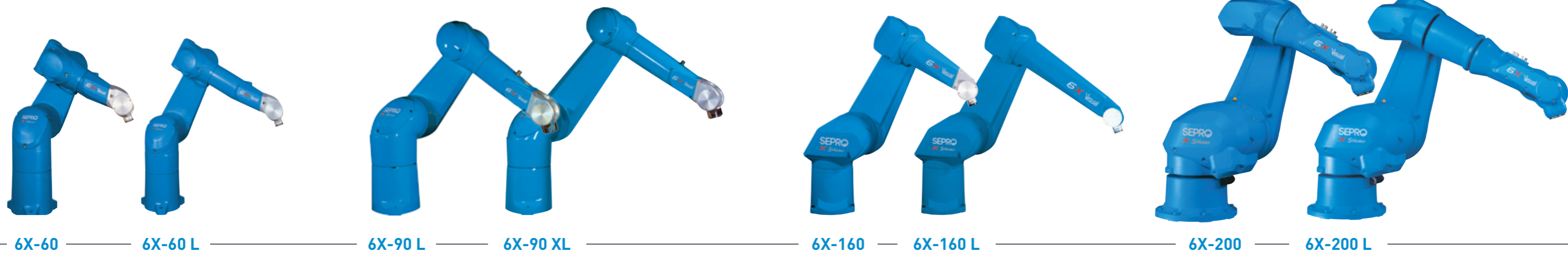
6X-60 - 6X-90 - 6X-160 - 6X-200

Fast and precise robots with a compact geometry that is suited to restricted spaces. They are especially good for short cycle times including many operations or applications requiring high precision.

They are small and medium-sized arms designed with a closed and naturally clean structure (ISO 5 & IP 65) adapted to clean room applications for the medical and electronic industries.

Two possible installations:

- Ceiling mounting to take up less floor space,
- Floor installation, next to the IMM to work with the peripherals.



Mold clamping force - Indication

Version

Maximum load (kg)

Nominal load (kg)

Radius of action (mm)

Repeatability (ISO9283)

Protection category (*arm/wrist)

Work zone (°) / Max speed (°/s)

Axis 1

Axis 2

Axis 3

Axis 4

Axis 5

Axis 6

Type of installation

Side Entry Ground

Side Entry Ceiling (1)

Floor-standing control cabine

Path tracking

VISUAL 3 control system

6X-60

20 - 100 T

6X-60	6X-60L
9	5
3,5	2
670	920
+/- 0,02	+/- 0,03
IP65 / IP67	
+/- 180 / 435	
+/-127,5/410	+/- 127,5/385
+/-142,5/540	+/-152,5/500
+/- 270/995	
+132,5 - 122,5/1065	
+/- 270/1445	
✓	
✓	
✓	
✓	
✓	

6X-90

80 - 200 T

6X-90L	6X-90XL
15	9
6	5
1200	1450
+/- 0,035	+/- 0,04
IP65 / IP67	
+/- 180/400	
+147,5-130/390	+147,5-130/350
+/- 145/420	+/- 145/410
+/- 270/540	
+140-115/475	
+/- 270/760	
✓	
✓	
✓	
✓	
✓	

6X-160

150 - 500 T

6X-160	6X-160L
34	28
20	14
1710	2010
+/- 0,05	+/- 0,05
IP65 / IP67	
+/- 160/200	
+/- 137,5/200	
+/- 150/255	
+/- 270/315	
+120 - 105/60	
+/- 270/870	
✓	
✓	
✓	
✓	
✓	

6X-200

500 - 1300 T

6X-200	6X-200L
130*	80*
100*	60*
2194	2594
+/- 0,06	+/- 0,1
IP65 / IP67	
+/- 180/150	
+/- 120/150	
+145 -140/150	
+/- 270/260	
+/- 120/260	
+/- 270/400	
✓	
✓	
✓	
✓	
✓	

(1) Contact Sepro

SEPRO-YASKAWA - THE TECHNOLOGY OF A WORLD LEADER

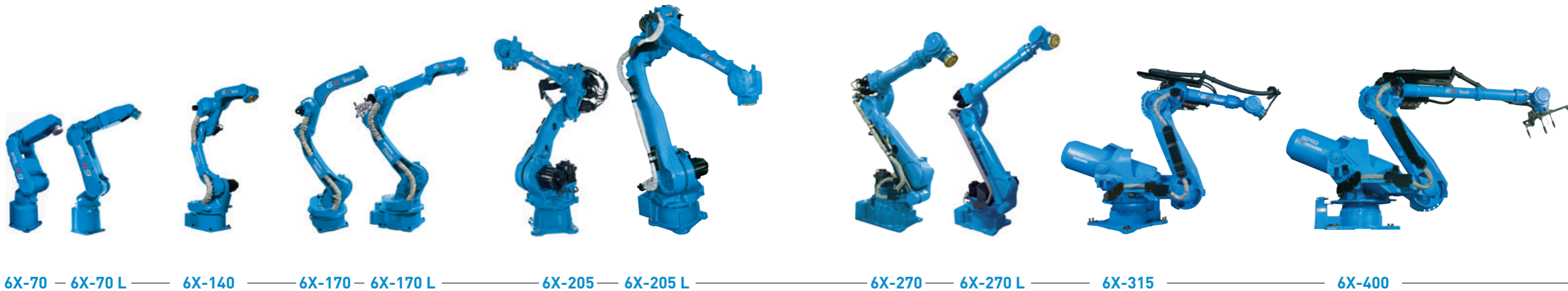
6X-70 - 6X-140 - 6X-170 - 6X-205 - 6X-270 - 6X-315 - 6X-400

The small 6-axis robots (6X-70, 6X-140 & 6X-170) ideally combine quality and durability at the best price to satisfy the requirements of general automobile applications.

The large-sized arms (from 6X-205 to 6X-400) are specially adapted to offer a large work envelope and wide radius of action for IMM's up to 5000 tonnes.

They can be mounted either on the IMM platen to save floor space, or next to the IMM on the floor, to work with the peripherals.

The slender architecture of the end of arm, combined with powerful motors make Yaskawa-Motoman robots highly adapted to handle large EOATs inside the molds.



	6X-70		6X-140	6X-170		6X-205		6X-270		6X-315	6X-400
	20 - 200 T		80 - 200 T	150 - 500 T		500 - 1000 T		800 - 2000 T		1000 - 2000 T	1500 - 5000 T
Version	6X-70	6X-70 L	6X-140	6X-170	6X-170 L	6X-205	6X-205 L	6X-270	6X-270 L	6X-315	6X-400
Mold clamping force - Indication metric Ton	20 - 200 T		80 - 200 T	150 - 500 T		500 - 1000 T		800 - 2000 T		1000 - 2000 T	1500 - 5000 T
Maximum load (kg)	5	5	12	24	10	50	35	180	120	165	120
Nominal load (kg)	5	5	12	24	10	50	35	180	120	165	120
Radius of action (mm)	706	895	1440	1730	2010	2061	2538	2702	3058	3140	4004
Repeatability (ISO9283)	+/- 0,02	+/- 0,03	+/- 0,08	+/- 0,06	+/- 0,08	+/- 0,07	+/- 0,07	+/- 0,2	+/- 0,2	+/- 0,2	+/- 0,2
Protection category (*wrist)	IP65 / IP67		IP54 / IP67	IP65 / IP67		IP54 / IP67		IP54 / IP67		IP54 / IP67	IP54 / IP67
Work zone (°) / Max speed (°/s)											
Axis 1	+/-170/376	+/-170/270	+/- 170/220	+/-180/197		+/- 180/180		+/- 180/125		+/- 180/105	+/- 180/90
Axis 2	-65+150/350	-65+150/280	- 90 + 155/200	-155 +105/190	-105+155/190	- 90 +135/178		- 60 +76/115		- 130 +80/105	- 130 +80/85
Axis 3	-136+255/400	-138+255/300	- 175 + 240/220	-170 +240/210	-170+250/210	- 170 +251/178		-147/+90 /125 -142/+90/125		- 112 + 208/105	- 107 +190 /85
Axis 4	+/- 190/450		+/- 180/410	+/- 200/410		+/- 360/250		+/- 360/182		+/- 360/175	+/- 360/175
Axis 5	+/- 135/450		+/- 135/410	+/- 150/410 +/- 135/410		+/- 125/250		+/-130/175		+/- 130/150	+/- 130/150
Axis 6	+/- 360/720		+/- 360/610	+/- 455/620		+/- 360/265		+/- 360/265		+/- 360/240	+/- 360/240
Type of installation											
Side Entry Ground	✓		✓	✓		✓		✓		✓	✓
Side Entry Ceiling (1)	✓		✓	✓						✓	✓
Top Entry (on IMM's fixed plate)						-		✓		✓	✓
Floor-standing control cabine						✓		✓		✓	✓
Path tracking	✓		✓	✓		✓		✓		✓	✓
VISUAL 3 control system	✓		✓	✓		✓		✓		✓	✓

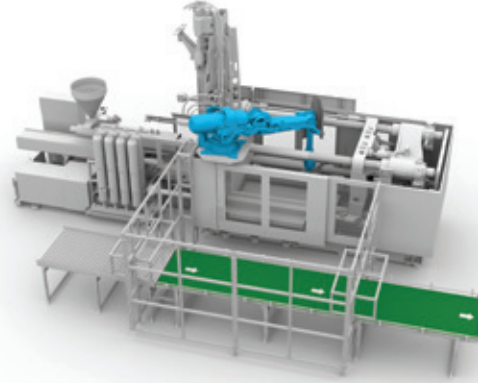
(1) Contact Sepro

(2) Correspondance Yaskawa axis
 Axis 1 = S
 Axis 2 = L
 Axis 3 = U
 Axis 4 = R
 Axis 5 = B
 Axis 6 = T

INSTALLATION ADAPTED TO YOUR SPECIFIC NEEDS

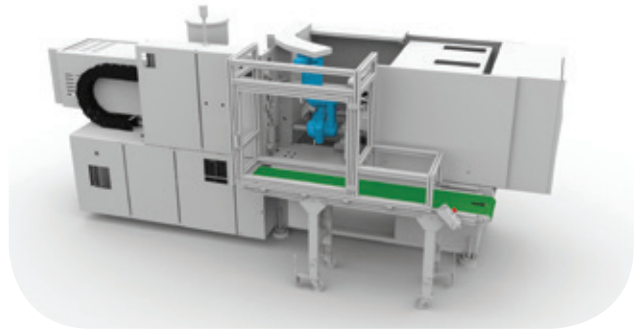
INSTALLATION ON THE IMM'S FIXED PLATEN - TOP ENTRY

- No floor area is occupied by the robot
- Enables IMM operation with the doors closed



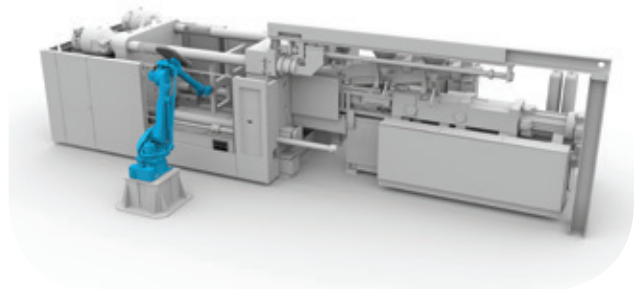
CEILING INSTALLATION - SIDE ENTRY

- Very compact installation integrated in the IMM
- Laminar flow above the mold and easy to install



FLOOR INSTALLATION - SIDE ENTRY

- Wide work zone for the robot, near the floor for serving the peripheral units.



WHY CHOOSE SEPRO ?

- Sepro Group is among the top 2 manufacturers of 3-axis robots and is a global integrator in 6-axis robot
- Main supplier in the Automotive Industry in Europe and the USA - global leader for IMM's over 800T
- A full line of robots from 3 to 6 axis with one unique and user-friendly control
- Over 30,000 installations worldwide

YOUR FREE CHOICE IN ROBOTS

www.sepro-group.com