




# PDS

## 5-Axis Heads



### 2-axis milling heads for 5-axis processing

| Type                               | (50° inclination angle of B-axis) |                                |                                | Type                               | (90° inclination angle of A-axis) |  |  |                  |
|------------------------------------|-----------------------------------|--------------------------------|--------------------------------|------------------------------------|-----------------------------------|--|--|------------------|
| Description                        | 5AX-J50-YAS                       | 5AX-K50-YAS                    | 5AX-H50-YAS                    | Description                        | 5AX-J90-YAS                       | 5AX-K90-YAS                                    | 5AX-H90-YAS                                    | 5AX-T90-YAS      |
| Standard servomotor                | Yaskawa                           | Yaskawa                        | Yaskawa                        | Standard servomotor                | Yaskawa                           | Yaskawa  | Yaskawa  | Yaskawa          |
| Encoder B+C Axis                   | Encoder absolute                  | Encoder absolute               | Encoder absolute               | Encoder A+C Axis                   | Encoder absolute                  | Encoder absolute                               | Encoder absolute                               | Encoder absolute |
| Duration of torque B-Axis          | 320 Nm                            | 320 Nm                         | 320 Nm                         | Duration of torque A-Axis          | 380 Nm                            | 380 Nm   | 380 Nm   | 720 Nm           |
| Duration of torque C-Axis          | 320 Nm                            | 320 Nm                         | 670 Nm                         | Duration of torque C-Axis          | 380 Nm                            | 380 Nm   | 460 Nm   | 550 Nm           |
| Max. torque B-Axis                 | 570 Nm                            | 570 Nm                         | 740 Nm                         | Max. torque A-Axis                 | 570 Nm                            | 570 Nm   | 570 Nm   | 1720 Nm          |
| Max. torque C-Axis                 | 570 Nm                            | 570 Nm                         | 980 Nm                         | Max. torque C-Axis                 | 570 Nm                            | 570 Nm   | 980 Nm   | 1420 Nm          |
| Mechanically blocked axes          | No                                | C-Axis                         | B+C-Axis                       | Mechanically blocked axes          | No                                | No   | A+C-Axis                                       | A+C-Axis         |
| Max. rotation axis B-Axis          | ± 185°                            | ± 185°                         | ± 185°                         | Max. rotation A-Axis               | ± 135°                            | ± 135°   | ± 135°   | ± 100°           |
| Max. rotation axis C-Axis          | ± 320°                            | ± 320°                         | ± 320°                         | Max. rotation C-Axis               | ± 320°                            | ± 320°   | ± 320°   | ± 320°           |
| Positioning precision B+C Axis     | 0,1 mm                            | 0,1 mm                         | 0,1 mm                         | Positioning precision A+C Axis     | 0,1 mm                            | 0,1 mm   | 0,1 mm   | 0,1 mm           |
| Max. positioning speed B-Axis      | 7.000° /'                         | 7.000° /'                      | 10.000° /'                     | Max. positioning speed A-Axis      | 6.100° /'                         | 6.100° /'                                      | 6.100° /'                                      | 10.000° /'       |
| Max. positioning speed C-Axis      | 7.000° /'                         | 7.000° /'                      | 11.500° /'                     | Max. positioning speed C-Axis      | 6.100° /'                         | 6.100° /'                                      | 9.300° /'                                      | 12.000° /'       |
| Max. operating speed B-Axis        | 4.000° /'                         | 4.000° /'                      | 4.500° /'                      | Max. operating speed A-Axis        | 3.700° /'                         | 3.700° /'                                      | 3.700° /'                                      | 4.500° /'        |
| Max. operating speed C-Axis        | 4.000° /'                         | 4.000° /'                      | 5.500° /'                      | Max. operating speed C-Axis        | 3.700° /'                         | 3.700° /'                                      | 5.600° /'                                      | 7.000° /'        |
| Motor spindle type                 | XLHA110-8.5/12<br>XLHA110-10/12   | XLHA135-12/12<br>XLHA135-15/12 | XLHA135-15/12<br>XLHA135-18/12 | Motor spindle type                 | XLHA110-8.5/12<br>XLHA110-10/12   | XLHA135-10/7<br>XLHA135-12/12<br>XLHA135-15/12 | XLHA135-10/7<br>XLHA135-15/12<br>XLHA135-18/12 | XLHA170-30/6     |
| Total weight (incl. motor spindle) | 55 kg                             | 100 kg                         | 140 kg                         | Total weight (incl. motor spindle) | 60 kg                             | 100 kg   | 120 kg   | 200 kg           |

| Motor spindle type | Power S1 / S6 60%<br>in kW | Max. speed<br>in RPM | Nominal speed<br>in RPM | Frequency | Poles | Cooling | Tool Receptacle   | Encoder on spindle | Weight |
|--------------------|----------------------------|----------------------|-------------------------|-----------|-------|---------|-------------------|--------------------|--------|
| XLHA110-8.5/12     | 8,5 / 10                   | 24.000               | 12.000                  | 800 Hz    | 4     | Liquid  | HSK 63F           | Optional           | 20 kg  |
| XLHA110-10/12      | 10 / 12                    | 24.000               | 12.000                  | 800 Hz    | 4     | Liquid  | HSK 63F           | Optional           | 18 kg  |
| XLHA135-12/12      | 12 / 14                    | 24.000               | 12.000                  | 800 Hz    | 4     | Liquid  | HSK 63F           | Optional           | 27 kg  |
| XLHA135-15/12      | 15 / 17                    | 24.000               | 12.000                  | 800 Hz    | 4     | Liquid  | HSK 63F           | Optional           | 26 kg  |
| XLHA135-18/12      | 18 / 20                    | 24.000               | 12.000                  | 800 Hz    | 4     | Liquid  | HSK 63F           | Optional           | 25 kg  |
| XLHA135-10/7       | 10 / 12                    | 24.000               | 7.000                   | 800 Hz    | 4     | Liquid  | HSK 63F           | Optional           | 26 kg  |
| XLHA170-30/6       | 30 / 35                    | 13.500               | 6.000                   | 800 Hz    | 4     | Liquid  | HSK 80F / HSK 85S | -                  | 70 kg  |