



## HiPace<sup>®</sup> 80

Compact yet powerful turbopumps with  
pumping speeds of up to 71 l/s for N<sub>2</sub>

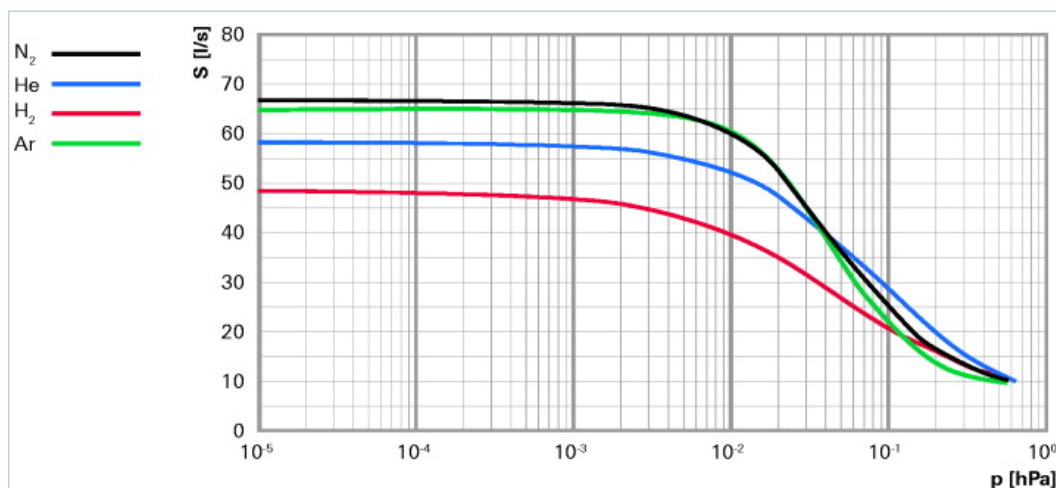




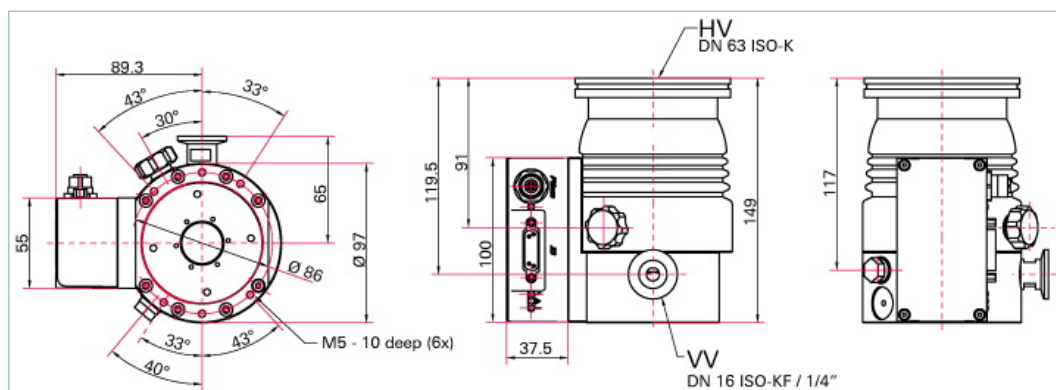
Similar Image

## HiPace® 80 with TC 110, DN 63 ISO-K

- Small yet powerful turbopump with a pumping speed of up to 67 l/s for N<sub>2</sub>
- Integrated TC 110 drive electronics
- For installation in any orientation
- Ideal for dependable systems integration
- Extensive accessories expand the range of applications



### Dimensions



| Technical Data   | HiPace® 80 with TC 110, DN 63 ISO-K           |
|--|---|
| Bearing  | Hybrid  |
| Compression ratio for Ar                                   | $> 1 \cdot 10^{11}$                           |
| Compression ratio for H <sub>2</sub>                       | $1.4 \cdot 10^5$                              |
| Compression ratio for He                                   | $1.3 \cdot 10^7$                              |
| Compression ratio for N <sub>2</sub>                       | $> 1 \cdot 10^{11}$                           |
| Cooling method, optional                                   | Air/water                                     |
| Cooling method, standard                                   | Convection                                    |
| Cooling water consumption                                  | 75 l/h  |
| Cooling water temperature                                  | 5-25 °C   41-77 °F   278-298 K                |
| Electronic drive unit                                      | with TC 110                                   |
| Flange (in)  | DN 63 ISO-K                                   |
| Flange (out)   | DN 16 ISO-KF / G 1/4"                         |
| Fore-vacuum max. for N <sub>2</sub>                        | 22 hPa   16.5 Torr   22 mbar                  |
| Gas throughput at full rotational speed for Ar             | 0.54 hPa l/s   0.41 Torr l/s   0.54 mbar l/s  |
| Gas throughput at full rotational speed for H <sub>2</sub> | 15.3 hPa l/s   11.47 Torr l/s   15.3 mbar l/s |
| Gas throughput at full rotational speed for He             | 2.7 hPa l/s   2.02 Torr l/s   2.7 mbar l/s    |
| Gas throughput at full rotational speed for N <sub>2</sub> | 1.3 hPa l/s   0.97 Torr l/s   1.3 mbar l/s    |

| Technical Data                         | HiPace® 80 with TC 110, DN 63 ISO-K  |
|--|--|
| Interfaces                             | RS-485, Remote   |
| Mounting orientation                   | in any orientation   |
| Operating voltage                      | 24 (± 5 %) V DC  |
| Permissible magnetic field max.        | 3.3 mT   |
| Protection category                    | IP 54  |
| Pumping speed for Ar                   | 66 l/s   |
| Pumping speed for H <sub>2</sub>       | 48 l/s   |
| Pumping speed for He                   | 58 l/s   |
| Pumping speed for N <sub>2</sub>       | 67 l/s   |
| Rotation speed ± 2 %                   | 90,000 min <sup>-1</sup>   |
| Rotation speed variable                | 50-100 %   |
| Run-up time                            | 1.7 min  |
| Sound pressure level                   | <= 48 dB (A)   |
| Ultimate pressure according to PNEUROP | < 1 · 10 <sup>-7</sup> hPa   < 7.5 · 10 <sup>-8</sup> Torr   < 1 · 10 <sup>-7</sup> mbar |
| Venting connection                     | G 1/8"   |
| Weight                                 | 2.4 kg   5.29 lb   |

| Order number |            |
|--------------|------------|
| HiPace® 80   | PM P03 940 |

| Accessories   |               |
|---|---------------|
| <b>Accessory for TC 110</b>   |               |
| Enclosure for plug, spraywater-protected, 15-pole, D-sub  | P 0998 016    |
| Mains power plug angled for TC 110/120 and mating plug for interface E74  | P 4723 111    |
| Mains power plug for TC 110/120 and mating plug for E74 interface, straight   | P 4723 110    |
| TCS 11, adapter for TC 110/120 with RS-485 interface  | PM 061 636 -U |
| TCS 12, adapter for TC 110/120 with interface RS-485, 4 accessory ports and coupling set                                      | PM 061 638 -U |
| TCS 13, adapter for TC 110/120 with interface RS-485, 2 accessory ports and coupling set                                      | PM 061 856 -U |
| <b>Adapter and control cables</b>   |               |
| HiPace - ACP connection cable   | PM 071 142 -X |
| <b>Air cooling</b>  |               |
| Air cooling for HiPace 60/80, SplitFlow 50/80, 230 V  | PM Z01 343    |
| Air cooling for HiPace 60 P, HiPace 80 and SplitFlow 50/80 with TC 110/120  | PM Z01 300    |
| Air cooling for HiPace 60 P and 80, SplitFlow 50/80, 115 V  | PM Z01 344    |
| <b>Connection cables</b>  |               |
| Connection cable for HiPace with TC 110/120   | PM 061 543 -T |
| Connection cable incl. 2 accessory ports for TC 110/120 to power supply   | PM 061 552 -T |
| Connection cable with RS-485 interface and 2 accessory ports for TC110/120 to power supply                                    | PM 061 351 -T |
| Connection cable with RS-485 interface and 3 accessory ports for TC 110/120 to power supply                                   | PM 061 512 -T |
| Connection cable with RS-485 interface for TC 110/120 to power supply   | PM 061 350 -T |
| <b>Control and display units</b>  |               |
| Accessories package for HPU 001/PC  | PM 061 005 -T |
| DCU 002, Display Control Unit   | PM 061 348 -T |
| HPU 001, Handheld Programming Unit  | PM 051 510 -T |
| RJ 45 interface cable on M12 for HiPace   | PM 051 726 -T |
| <b>DCU with integrated power supply</b>   |               |
| DCU 110, Display control unit incl. power supply  | PM C01 820    |
| DCU 180, Display control unit incl. power supply  | PM C01 821    |
| <b>DN ISO-K, claws</b>  |               |
| Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring, splinter and claw grips                          | PM 016 511 -T |
| Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring and claws   | PM 016 510 -T |
| Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring with integrated protection screen and claws grips | PM 016 512 -T |
| <b>DN ISO-K, Mounting kit, bracket screws</b>   |               |
| Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring, protection screen and bracket screws             | PM 016 362 -T |
| Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring, splinter shield and bracket screws               | PM 016 361 -T |
| Mounting kit for HiPace 60/80, DN 63 ISO-K, including coated centering ring and bracket screws                                | PM 016 360 -T |

| <b>Accessories</b>   |                      |
|--|----------------------|
| <b>DN ISO-K / -F, sealings, splinter shields, protection screens</b>                       |                      |
| Centering ring with multifunction coating, DN 63 ISO-K/-F                                  | <b>PM 016 206 -U</b> |
| Centering ring with multifunction coating and integrated protection screen, DN 63 ISO-K/-F | <b>PM 016 208 -U</b> |
| Centering ring with multifunction coating and integrated splinter shield, DN 63 ISO-K/-F   | <b>PM 016 207 -U</b> |
| <b>Fore-vacuum safety valves</b>   |                      |
| TVV 001 fore-vacuum safety valve, 115 V AC   | <b>PM Z01 206</b>    |
| TVV 001 fore-vacuum safety valve, 230 V AC   | <b>PM Z01 205</b>    |
| <b>Interface and extension cables</b>  |                      |
| Extension cable M8 on M8   | <b>PM 061 783 -T</b> |
| Interface cable, M12 m straight/ M12 m angled 0.7 m  | <b>PM 061 791 -T</b> |
| Interface cable, M12 m straight / M12 m straight, 3 m                                      | <b>PM 061 283 -T</b> |
| <b>Mains cables</b>  |                      |
| Mains cable 115 V AC, NEMA 5-15 to C13, 3 m  | <b>P 4564 309 ZE</b> |
| Mains cable 208 V AC, NEMA 6-15 to C13, 3 m  | <b>P 4564 309 ZF</b> |
| Mains cable 230 V AC, CEE 7/7 to C13, 3 m  | <b>P 4564 309 ZA</b> |
| <b>Power failure venting units (normally open)</b>   |                      |
| Shielded power failure venting unit, 24 V DC, G 1/8", for connection to TC 110/120         | <b>PM Z01 330</b>    |
| <b>Relay boxes</b>   |                      |
| Relay box, shielded, for backing pumps, 1-phase 7A for TC 110/120 and TCP 350, plug M8     | <b>PM 071 282 -X</b> |
| Relay box for backing pump, single phase 20 A for TC 110/120 and TCP 350, M8 plug          | <b>PM 061 373 -T</b> |
| <b>RS-485</b>  |                      |
| Connector M12 to RS-485  | <b>PM 061 270 -X</b> |
| Power separator for RS-485   | <b>PT 348 132 -T</b> |
| Termination resistor for RS-485  | <b>PT 348 105 -T</b> |
| USB converter to RS-485 interface  | <b>PM 061 207 -T</b> |
| Y-Connector M12 to RS-485  | <b>P 4723 010</b>    |
| <b>Sealing gas</b>   |                      |
| Sealing gas throttle for HiPace 60/80  | <b>PM Z01 316</b>    |
| Sealing gas valve, shielded for HiPace 60/80 with TC 110                                   | <b>PM Z01 310</b>    |
| <b>TPS-19" rack module</b>   |                      |
| Front panel kit for TPS 111  | <b>PM 061 393 -T</b> |
| Front panel kit for TPS 181  | <b>PM 061 394 -T</b> |
| TPS 111, mains pack 19" rack module 3HU  | <b>PM 061 344 -T</b> |
| TPS 181, mains pack 19" rack module 3HU  | <b>PM 061 345 -T</b> |
| <b>TPS wall rail fitting</b>   |                      |
| TPS 110, mains pack for wall/standard rail fitting   | <b>PM 061 340 -T</b> |
| TPS 180, mains pack for wall/standard rail fitting   | <b>PM 061 341 -T</b> |
| Wall rail fitting for TPS 110/180/310/400  | <b>PM 061 392 -T</b> |
| <b>Venting accessory with small flange, G 1/8", hoses, air drier</b>                       |                      |
| Banjo fitting  | <b>PM 016 787 -T</b> |
| Banjo fitting, small   | <b>PM 143 877 -T</b> |
| Hose nozzle for 9 mm hose, G 1/8"  | <b>PM 016 783 -T</b> |
| Plug-in fitting for 6 mm hose, G 1/8"  | <b>PM 016 781 -T</b> |
| Plug-in fitting for 8 mm hose, G 1/8"  | <b>PM 016 782 -T</b> |
| Screw-in flange, DN 10 ISO-KF, G 1/8"  | <b>PM 033 737 -T</b> |
| Screw-on flange, DN 16 ISO-KF, G 1/8"  | <b>PM 016 780 -T</b> |
| TTV 001, dryer for venting turbopumps  | <b>PM Z00 121</b>    |

| Accessories  |                      |
|--|----------------------|
| <b>Venting valve (normally closed)</b>   |                      |
| Venting valve, 24 V DC, G 1/8" without cable   | <b>PM Z01 293</b>    |
| Venting valve, shielded, 24 V DC, G 1/8", for connection to TC 110/120                         | <b>PM Z01 290</b>    |
| <b>Vibration damper</b>  |                      |
| Vibration damper for HiPace 60/80, DN 63 ISO-K   | <b>PM 006 800 -X</b> |
| <b>Water cooling</b>   |                      |
| Water cooling for HiPace 60 P, HiPace 80 and for SplitFlow 50/80 with plug-in connection, 8 mm | <b>PM 016 623 -T</b> |