

L170R01V2
Mega Series

Service carts for large and extra large gas compartments

The L170 service carts for liquid gas storage have been developed to recover, purify, evacuate, fill, and vent large to extra-large SF₆ gas compartments with high process reliability. Thus, a gas compartment with 1,000l and 5 bar pa can be recovered down to < 1 mbar in only 38 minutes*) when using the DN40 coupling**). Modern control technology in conjunction with a user-friendly interface in several languages make device operation simple and convenient. Operation via mobile devices such as smartphones, tablets or laptops is available as an option. The external cover of the device protects the integrated components and considerably reduces noise. This series offers fully automated operation via a 10" touch screen with protective cover shielding from sunlight and dust. The swivelling touch screen allows ergonomic working at the optimum working height. For data exchange additional USB and Ethernet connections are integrated. By using the hermetically gastight DILLO couplings and connections, emission-free gas handling is guaranteed. The series also enables short gas recovery and evacuating times thanks to the existing DN20 / DN40 couplings and is available with a second DN20 connecting coupling as an option. Thus, two functions can be carried out simultaneously. This makes it possible to evacuate air from one gas compartment and at the same time fill another gas compartment with SF₆ gas or to recover the gas from it. Thanks to the automated special functions the devices can be easily maintained without emissions.



Standard version

- B110R11 oil-free DILO compressor; delivery rate (19 m³/h [at 50 Hz]; 15 m³/h [at 60 Hz]) at medium suction pressure with SF₆
- oil-free suction pump for recovery of SF₆ gas (35 m³/h [at 50 Hz]; 42 m³/h [at 60 Hz], final vacuum < 1 mbar)
- vacuum pump for evacuation of air; delivery rate (configurable)
- evaporator max. flow rate 200 kg/h)
- dry filter (water absorption capacity: 175 g at a dew point of -36°C)
- particle filter 1 µm
- operation and indication of the important process parameters via 10" touch screen with protective cover
- indication units in bar / mbar, kPa or psi / torr to be selected on the touch screen
- forklift slots
- crane eyelets
- fixing and steerable rollers (configurable)
- drawer for tools and accessories
- 2 m long storage connecting hose DN8 with DILO coupling tongue part DN20
- most common global cylinder connections
- digital weighing scales for SF₆ cylinders (with automatic switch-off function), 0 - 120 kg with tare function, accuracy ± 0.02 %
- wrenches for DILO couplings and filters
- paint: anthracite-orange

Special features

- Gas recovery: < 1 mbar
- Filling of gas: 0 - 10 bar
- Evacuation of air: < 1 mbar
- Maximum storage pressure: 50 bar
- Recommended gas quantity: < 300 kg
- Operation: automatic
- DILO couplings: DN20/DN40

Advantages & functions

- SF₆ gas recovery down to < 1 mbar
- optional remote control via mobile devices
- reversing switch for correcting the direction of rotation
- integrated special functions for easy maintenance and safe transport
- all versions are available with pressure vessels (integratable features) with CE marking or optionally with SQL or ASME approval
- the service carts can also be mounted onto a trailer

Technical data

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| Dimensions (W x H x D) | 1,100 x 1,350 x 2,350 mm - Standard version |
| Weight | 1,048 kg above-mentioned version |
| Dimensions (W x H x D) | 1,185 x 1,960 x 2,625 mm - Version: 300 l pressure vessel, with electronic weight indication and chassis with solid tyre wheels |
| Weight | 1,660 kg above-mentioned version |
| Dimensions (W x H x D) | 1,185 x 2,095 x 2,625 mm - Version: 600 l pressure vessel, with electronic weight indication and chassis with solid tyre wheels |
| Weight | 1,960 kg above-mentioned version |
| Dimensions (W x H x D) | 1,185 x 2,095 x 2,625 mm - Version: stowage including 5 x 40 kg SF ₆ cylinders with electronic weight indication and chassis with solid tyre wheels |
| Weight | 1,730 kg above-mentioned version |
| Ambient temperature | 0 to +45 °C |
| Operating temperature | 0 to +45 °C |
| Storage temperature | -20 to +60 °C |
| Protection class | IP54 |
| Sound level | < 76 dB |



Configuration

| Screen | |
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| 10" touch panel | Operation of the device and indication of the process parameters via 10" colour touch panel |
| 10" touch panel + WLAN | |
| 10" touch panel+WLAN+Cosy NA | |
| 10" touch panel+WLAN+Cosy EU | |
| Operating voltage | |
| 208-240V 60Hz | 3-phase current, 208-240V / 60Hz |
| 380-440V 50Hz | 3-phase current, 380-440V / 50Hz |
| 380-480V 60Hz | 3-phase current, 380-480V / 60Hz |
| 200V 50Hz | 3-phase current, 200V / 50Hz |
| 200V 60Hz | 3-phase current, 200V / 60Hz |
| 210-240V 50Hz | 3-phase current, 210-240V / 50Hz |
| 600V 60Hz | 3-phase current, 600V / 60Hz |
| 208-240V 60Hz (USA) | 3-phase current, 208-240V / 60Hz |
| 380-480V 60Hz (USA) | 3-phase current, 380-480V / 60Hz |
| Delivery rate of vacuum pump | |
| Without vacuum pump | |
| 63m ³ /h; <1mbar(S01-05+S08+S09) | Vacuum pump for evacuation of air (63 m ³ /h at 50 Hz, 76 m ³ /h at 60 Hz, final vacuum < 1 mbar) |
| 63m ³ /h; <1mbar (S06) | Vacuum pump for evacuation of air (63 m ³ /h at 50 Hz, 76 m ³ /h at 60 Hz, final vacuum < 1 mbar) |
| 63m ³ /h; <1mbar (S07) | Vacuum pump for evacuation of air (63 m ³ /h at 50 Hz, 76 m ³ /h at 60 Hz, final vacuum < 1 mbar) |
| 100m ³ /h;<1mbar(S01-05+S08+S09) | Vacuum pump for evacuation of air (100 m ³ /h at 50 Hz, 120 m ³ /h at 60 Hz, final vacuum < 1 mbar) |
| 100m ³ /h; <1mbar (S06) | Vacuum pump for evacuation of air (100 m ³ /h at 50 Hz, 120 m ³ /h at 60 Hz, final vacuum < 1 mbar) |
| 100m ³ /h; <1mbar (S07) | Vacuum pump for evacuation of air (100 m ³ /h at 50 Hz, 120 m ³ /h at 60 Hz, final vacuum < 1 mbar) |
| 200m ³ /h;<1mbar(S01-06+S08+S09) | Vacuum pump for evacuation of air (200 m ³ /h at 50 Hz, 240 m ³ /h at 60 Hz, final vacuum < 1 mbar) |
| 200m ³ /h; <1mbar (S07) | Vacuum pump for evacuation of air (200 m ³ /h at 50 Hz, 240 m ³ /h at 60 Hz, final vacuum < 1 mbar) |
| TypRH0060; (S01-06+S08+S09) | Vacuum pump for evacuation of air, 2-stage with exhaust filter, type RH0060 Nominal suction capacity: 55 m ³ /h at 50 Hz, 65 m ³ /h at 60 Hz, final vacuum 0.0067 mbar |
| TypRH0060; (S07) | Vacuum pump for evacuation of air, 2-stage with exhaust filter, type RH0060 Nominal suction capacity: 55 m ³ /h at 50 Hz, 65 m ³ /h at 60 Hz, final vacuum 0.0067 mbar |
| TypRH0090; (S01-06+S08+S09) | Vacuum pump for evacuation of air, 2-stage with exhaust filter, type RH0090 Nominal suction capacity: 80 m ³ /h at 50 Hz, 95 m ³ /h at 60 Hz, final vacuum 0.0067 mbar |
| TypRH0090; (S07) | Vacuum pump for evacuation of air, 2-stage with exhaust filter, type RH0090 Nominal suction capacity: 80 m ³ /h at 50 Hz, 95 m ³ /h at 60 Hz, final vacuum 0.0067 mbar |
| Automatic control + exhaust monitoring | |



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| without K141R11 and K203R01 | Without automatic switch off function (evacuation of air, filling of SF ₆ , recovery of SF ₆) when reaching the corresponding final values Without exhaust monitoring for vacuum pump (additional SF ₆ sensor at the vacuum pump which terminates the function "Evacuation of air / N ₂ " automatically when detecting SF ₆ gas in the exhaust air for avoiding an inadvertent loss of SF ₆ gas) |
| with K141R11; without K203R01 | With automatic switch off function (evacuation of air, filling of SF ₆ , recovery of SF ₆) when reaching the corresponding final values Without exhaust monitoring for vacuum pump (additional SF ₆ sensor at the vacuum pump which terminates the function "Evacuation of air / N ₂ " automatically when detecting SF ₆ gas in the exhaust air for avoiding an inadvertent loss of SF ₆ gas) |
| without K141R11; with K203R01 | Without automatic switch off function (evacuation of air, filling of SF ₆ , recovery of SF ₆) when reaching the corresponding final values With exhaust monitoring for vacuum pump (additional SF ₆ sensor at the vacuum pump which terminates the function "Evacuation of air / N ₂ " automatically when detecting SF ₆ gas in the exhaust air for avoiding an inadvertent loss of SF ₆ gas) |
| with K141R11; with K203R01 | With automatic switch off function (evacuation of air, filling of SF ₆ , recovery of SF ₆) when reaching the corresponding final values With exhaust monitoring for vacuum pump (additional SF ₆ sensor at the vacuum pump which terminates the function "Evacuation of air / N ₂ " automatically when detecting SF ₆ gas in the exhaust air for avoiding an inadvertent loss of SF ₆ gas) |
| Filling pressure + emptying of storage vessel | |
| K205R01 (10 bar) w/o K204R03 | Filling of the gas compartment with SF ₆ gas up to max. pa 10 bar The for the filling process connected gas container (bottle, internal / external storage tank) can be emptied down to atmospheric pressure |
| K205R02 (15 bar) w/o K204R03 | Filling of the gas compartment with SF ₆ gas up to max. pa 15 bar The for the filling process connected gas container (bottle, internal / external storage tank) can be emptied down to atmospheric pressure |
| K205R01 (10 bar) with K204R03 | Filling of the gas compartment with SF ₆ gas up to max. pa 10 bar The for the filling process connected gas container (bottle, internal / external storage tank) can be emptied down to < 1 mbar |
| K205R02 (15 bar) with K204R03 | Filling of the gas compartment with SF ₆ gas up to max. pa 15 bar The for the filling process connected gas container (bottle, internal / external storage tank) can be emptied down to < 1 mbar |
| Device covering | |
| Standard sheet-metal cover | |
| With tarpaulin- K029R68 | |
| Integrateable features (pressure vessel, chassis and rollers) | |
| Without rollers | |
| steerable and fixing rollers | steerable and fixing rollers |
| chassis with solid tired wheel | Chassis with solid tired wheels |
| 300l / 50bar CE / chassis | B172R11L170 300 l / 50 bar pressure tank in accordance with 2014/68/EU regulations and CE marked with electronic weight indication and chassis with solid tired wheels |
| 600l / 50bar CE / chassis | B172R12L170 600 l / 50 bar pressure tank in accordance with 2014/68/EU regulations and CE marked with electronic weight indication and chassis with solid tired wheels |
| Storage without bottles, FW | B175R64L170 Storage with electronic weight indication, without SF ₆ bottles, chassis with solid tired wheels |
| Storage with 5 bottles, FW | B175R65L170 Storage with electronic weight indication, with 5 SF ₆ bottles and chassis with solid tired wheels |



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| Trailer w/o storage (just SC) | 2-axle car trailer TÜV approved, including tarpaulin, side and back walls open by pneumatic springs, service cart directly mounted on the trailer |
| Trailer without bottles | B175R72L170 2-axle car trailer TÜV approved, storage with weighing device for up to 4 SF ₆ cylinders (without cylinders), including tarpaulin, side and back walls open by pneumatic springs |
| Trailer with bottles | B175R71L170 2-axle car trailer TÜV approved, storage with weighing device with 4 SF ₆ cylinders (50 l), including tarpaulin, side and back walls open by pneumatic springs |
| 300l / 50bar SQL;CN / chassis | B172R91L170/CN 300 l / 50 bar pressure tank with SQL approval, electronic weight indication and chassis with solid tired wheels |
| 600l / 50bar SQL;CN / chassis | B172R92L170/CN 600 l / 50 bar pressure tank with SQL approval, electronic weight indication and chassis with solid tired wheels |
| 300l / 50bar ASME / chassis | B172R84L170 300 l / 50 bar pressure tank with ASME approval, electronic weight indication and chassis with solid tired wheels |
| 600l / 50bar ASME / chassis | B172R85L170 600 l / 50 bar pressure tank with ASME approval, electronic weight indication and chassis with solid tired wheels |
| 300l / 50bar SQL;GE / chassis | B172R91L170/GE 300 l / 50 bar pressure tank with SQL approval, electronic weight indication and chassis with solid tired wheels |
| 600l / 50bar SQL;GE / chassis | B172R92L170/GE 600 l / 50 bar pressure tank with SQL approval, electronic weight indication and chassis with solid tired wheels |
| 300l/50bar austr.St. / chassis | |
| Storage w. 5 bottles, rollers | B175R62L170 Storage with electronic weight indication, with 5 SF ₆ bottles and fixing and steerable rollers |
| Trailer w/o storage,w/o bottle | 2-axle car trailer TÜV approved, storage with weighing device without SF ₆ cylinders, including tarpaulin, side and back walls open by pneumatic springs With hose reel with spring balancer. |
| Trailer w. storage w. bottles | 2-axle car trailer TÜV approved, storage with weighing device with SF ₆ cylinders, including tarpaulin, side and back walls open by pneumatic springs With hose reel with spring balancer. |
| Dew point control + parallel operation | |
| w/o dew point, w/o parallel | |
| with dew point, w/o parallel | SF ₆ dew point indication after dry filter |
| w/o dew point w. parallel <200 | Additional coupling DN20 for evacuation of air and recovery or filling of SF ₆ gas at the same time |
| w. dew point w. parallel <200 | SF ₆ dew point indication after dry filter Additional coupling DN20 for evacuation of air and recovery or filling of SF ₆ gas at the same time |
| w/o dew point, w. parallel 200 | Additional coupling DN20 for evacuation of air and recovery or filling of SF ₆ gas at the same time |
| w. dew point, w. parallel 200 | SF ₆ dew point indication after dry filter Additional coupling DN20 for evacuation of air and recovery or filling of SF ₆ gas at the same time |
| Transport lock | |
| without transport protection | Without relief of fixing and steerable rollers for transport |
| with transport protection | With relief of fixing and steerable rollers for transport: By using this transport protection, the device can be stored and transported in a safe way (for example on a truck). With this system the fixing- and steerable rollers will be discharged. Therefore, the device can be transported and lashed in a safe way. |
| Vacuum indication | |
| Standard indication | 0 - 100 mbar, resolution 0.1 mbar |



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| High-precision indication A | Vacuum sensor for gas compartment A, indicating range 1x10 ⁻⁵ mbar |
| High-precision indication B | Vacuum sensor for gas compartment B, indicating range 1x10 ⁻⁵ mbar |
| High-precision indication A+B | Vacuum sensor for gas compartment A and gas compartment B, indicating range 1x10 ⁻⁵ mbar |

Optional accessories

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| K197R100 | Hose reel with 15 m long hose DN20 |
| B077R22 | Portable pre-filter unit (p _e 50 bar) |
| 6-1017-R100 | 10 m long rubber hose DN20 with DILO coupling tongue part DN20 on both ends |
| 6-1365-R050 | 5 m long wire braided hose DN20 with DILO coupling tongue part on both ends PN 64 bar |
| 6-1365-R100 | 10 m long wire-braided hose DN20 with DILO coupling tongue part on both ends PN 64 bar |
| 6-1076-R100 | 10 m long wire-braided hose DN40 with DILO-coupling tongue part DN40 on both ends |
| 6-1080-R050 | 5 m long wire-braided hose DN40 with DILO coupling tongue part DN40 on one end and DILO coupling tongue part DN20 on the other end |
| 6-1080-R100 | 10 m long wire-braided hose DN40 with DILO coupling tongue part DN40 on one end and DILO coupling tongue part DN20 on the other end |
| 6-1235-R001 | DILO coupling tongue part DN40 with transition piece to 2 x DN20, 2 rubber hoses DN20 (10 m long) with DILO coupling tongue part DN2 |
| 6-1048-R511 | Annual maintenance kit for L170R01 with standard vacuum pump (63 m ³ /h) / 6-170VP-R001 (100 m ³ /h) |
| 6-1048-R512 | Annual maintenance kit for L170R01 with 6-170VP-R002 (200 m ³ /h) vacuum pump |
| 6-1048-R515 | Annual maintenance kit for L170R01 with 2-stage 6-170VP-R008 (55 m ³ /h) vacuum pump |
| 6-1048-R516 | Annual maintenance kit for L170R01 with 2-stage 6-170VP-R009 (80 m ³ /h) vacuum pump |
| 6-1410-R011 | Spare parts kit for compressor |
| 6-1101-R141 | Spare filter kit (for SF ₆ dry and particle filter) |
| 6-1053-R004/1M | Electrical connecting cable 5x16 AWG5 (available lengths 5 - 30 m) |
| 6-1053-R005/1M | Electrical connecting cable 5x10 AWG7 (available lengths 5 - 30 m) |

Packaging

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| 3-788-R010-C | Packing for L170R01 |
| 3-788-R013-C | Packing for L170R01 with 6-170FG-R003 (chassis) as option |
| 3-788-R011-C | Packing with stowage and weighing device/pressure tank with chassis |
| 3-688-R005-C | Transport pallet mounted on a trailer |

Note

For the 380 - 480 V voltage range the following cable is required: 6-1053-R005

For the 200 - 240 V voltage range the following cable is required: 6-1053-R004

