















| change to  |  ECE (A)          | Year      | 79 - 87                                   | 75 - 79 | 75 - 81          | 77 - 89  | 83 - 89 |
|--|---|-----------|---|---------|------------------|----------|---------|
|  |  US Models       | Version   | ECE - Models with Mechanical transmission |         |                  |          |         |
|  |  Japanese Models | Model     | 628 CS i                                  | 630 CS  | 633 CS i         | 635 CS i | M 6     |
| Technical Data   | Heater and Air Conditioner  | Unit      |   |         |                  |          |         |
| <b>64 11 ... Control Unit</b>  |   |           |   |         |                  |          |         |
| Code Number  |   |           | see BMW - Parts Catalog                   |         |                  |          |         |
| Operating Voltage  |   | V         | 0 ... 15                                  |         |                  |          |         |
| Range  |   | °C        | 12 ± 3 ... 49,5 ± 3,5                     |         |                  |          |         |
|  | > Model ' 83  | °C        | 14,5 ± 3 ... 55,5 ± 4,5                   |         |                  |          |         |
| Cycle time   | (for water valve)   | sec.      | 3,3 ± 0,7                                 |         |                  |          |         |
| <b>64 11 ... Passenger Compartment Temperature Senseo</b>  |   |           |   |         |                  |          |         |
| Code Number  | (without air conditioner)   |           | see BMW - Parts Catalog                   |         |                  |          |         |
| resistance / temperature comparison  |   | °C / kΩ   | 0   | /       | 32,4 ... 37,7    |          |         |
|  |   |           | 5   | /       | 24,8 ... 28,9    |          |         |
|  |   |           | 10  | /       | 19,4 ... 22,1    |          |         |
|  |   |           | 15  | /       | 15,1 ... 17,2    |          |         |
|  |   |           | 20  | /       | 12,0 ... 13,3    |          |         |
|  |   |           | 25  | /       | 9,5 ... 10,5     |          |         |
|  |   |           | 30  | /       | 7,5 ... 8,4      |          |         |
|  |   |           | 35  | /       | 5,9 ... 6,8      |          |         |
|  |   |           | 40  | /       | 4,7 ... 5,4      |          |         |
| Resistance between connections 1 and 3 at 25°C<br>(PTC-resistance value) (only with air conditioner) |   | Ω         | 24,5 ... 42                               |         |                  |          |         |
| <b>64 11 ... Heater Temperature Sensor</b>   |   |           |   |         |                  |          |         |
| Code Number  |   |           | 1 368 649                                 |         |                  |          |         |
| resistance / temperature comparison  |   | °C / kΩ   | -20                                       | /       | 84,39 ... 109,61 |          |         |
|  |   |           | -10                                       | /       | 48,58 ... 62,09  |          |         |
|  |   |           | 0   | /       | 28,89 ... 36,4   |          |         |
|  |   |           | 20  | /       | 11,13 ... 13,83  |          |         |
|  |   |           | 25  | /       | 9,0 ... 11,0     |          |         |
|  |   |           | 60  | /       | 2,19 ... 2,78    |          |         |
|  |   |           | 100                                       | /       | 0,58 ... 0,77    |          |         |
| <b>64 11 ... Blower Motor</b>  |   |           |   |         |                  |          |         |
| Code Number  |   |           | see BMW - Parts Catalog                   |         |                  |          |         |
| Testing voltage  |   | V         | 13 ± 0,26                                 |         |                  |          |         |
| Operating Voltage  |   | V         | 9 ... 15                                  |         |                  |          |         |
| Power input  |   | approx. A | 12  |         |                  |          |         |
| Speed  |   | 1/min     | 3600 ... 4000                             |         |                  |          |         |
| Axial play   |   | max. mm   | 1,0                                       |         |                  |          |         |

| change to  |  ECE (A)<br> US Models<br> Japanese Models | Year                       | 79 - 87  | 75 - 79 | 75 - 81  | 77 - 89  | 83 - 89 |  |
|--|--|----------------------------|--|---------|----------|----------|---------|--|
|  |  | Version                    | ECE - Models with Mechanical transmission      |         |          |          |         |  |
|  |  | Model                      | 628 CS i                                       | 630 CS  | 633 CS i | 635 CS i | M 6     |  |
| Technical Data   |  | Heater and Air Conditioner | Unit   |         |          |          |         |  |
| <b>64 12 ... Heater ADDITIONAL HEATER</b>                  |  |                            |  |         |          |          |         |  |
| Type   |  |                            | B 1 L  |         |          |          |         |  |
| Fuel   |  |                            | regular grade gasoline, premium grade gasoline |         |          |          |         |  |
| Testing voltage  | V  |                            | 13 ± 0,26                                      |         |          |          |         |  |
| Operating Voltage  | V  |                            | 10 ... 14                                      |         |          |          |         |  |
| Fuel consumption at testing voltage                        | ltr / h  |                            | 0,23 ... 0,26                                  |         |          |          |         |  |
| Power consumption  | W  |                            | 36 ... 44                                      |         |          |          |         |  |
| Blower speed at testing voltage                            | 1/min  |                            | 7100 ... 8100                                  |         |          |          |         |  |
| <b>64 12 ... Fuel Pump ADDITIONAL HEATER</b>               |  |                            |  |         |          |          |         |  |
| Testing voltage  | V  |                            | 13 ± 0,26                                      |         |          |          |         |  |
| Operating Voltage  | V  |                            | 9 ... 15                                       |         |          |          |         |  |
| Power consumption  | approx. W  |                            | 14   |         |          |          |         |  |
| Pump frequency   | approx. Hz   |                            | 3,9  |         |          |          |         |  |
| Delivery rate  | cm <sup>3</sup> / min  |                            | 3,8 ... 4,2                                    |         |          |          |         |  |
| Installed position of drain u                              | approx. °  |                            | 15 ... 90                                      |         |          |          |         |  |
| <b>64 12 ... Glow Plug ADDITIONAL HEATER</b>               |  |                            |  |         |          |          |         |  |
| Type   |  |                            | Beru 191 GS                                    |         |          |          |         |  |
| Testing voltage  | V  |                            | 3,2 ± 0,2                                      |         |          |          |         |  |
| Power consumption at testingvoltage                        | approx. A  |                            | 8  |         |          |          |         |  |
| Glow temperature of heating after 60 sec. switched on time | °C   |                            | 760  |         |          |          |         |  |
| <b>64 12 ... Control Unit ADDITIONAL HEATER</b>            |  |                            |  |         |          |          |         |  |
| Code Number  |  |                            | 20 1575 500 000                                |         |          |          |         |  |
| Operating Voltage  | V  |                            | 9 ... 15                                       |         |          |          |         |  |
| <b>64 12 ... Automatic Cutout ADDITIONAL HEATER</b>        |  |                            |  |         |          |          |         |  |
| Code Number  |  |                            |  |         |          |          |         |  |
| Switching temperature                                      | °C   |                            | 162 ... 180                                    |         |          |          |         |  |
| <b>64 12 ... Temperature Sensor ADDITIONAL HEATER</b>      |  |                            |  |         |          |          |         |  |
| Power consumption  | max. A   |                            | 20   |         |          |          |         |  |
| Switching-off temperature                                  | °C   |                            | 76 ... 84                                      |         |          |          |         |  |
| Switching-on temperature                                   | °C   |                            | 61 ... 69                                      |         |          |          |         |  |
| Function   |  |                            | opens with increasing temperature              |         |          |          |         |  |
| <b>64 50 ... Air Conditioner</b>                           |  |                            |  |         |          |          |         |  |
| Refrigerent  |  |                            | see BMW Service Information                    |         |          |          |         |  |
| Boiling point  | °C   |                            | -29,8  |         |          |          |         |  |
|  | - at   | bar                        | 1  |         |          |          |         |  |
| Volume   |  | g                          | 1000   |         |          |          |         |  |
|  | > Model ' 85   | g                          | 1100 ± 25                                      |         |          |          |         |  |
|  | with rear air conditioner  | g                          | 1800 ± 25                                      |         |          |          |         |  |
| Charging pressure  |  | bar                        | 8  |         |          |          |         |  |

| change to  |  ECE (A)          | Year            | 79 - 87                                   | 75 - 79 | 75 - 81  | 77 - 89  | 83 - 89 |
|--|---|-----------------|---|---------|----------|----------|---------|
|  |  US Models       | Version         | ECE - Models with Mechanical transmission |         |          |          |         |
|  |  Japanese Models | Model           | 628 CS i                                  | 630 CS  | 633 CS i | 635 CS i | M 6     |
| Technical Data                                       | Heater and Air Conditioner  | Unit            |   |         |          |          |         |
| <b>64 50 ... Refrigerating machine oil</b>           |   |                 | see BMW Service Information               |         |          |          |         |
| Oil grade  |   |                 |   |         |          |          |         |
| Volume   | - Swash plate compressor  | cm <sup>3</sup> | 300                                       |         |          |          |         |
|  | - Impeller cell Compression   | cm <sup>3</sup> | 200                                       |         |          |          |         |
| Magnetic clutch                                      | Power consumption   | A               | 3,3                                       |         |          |          |         |
| Refrigerating machine oil added after replacement of |   |                 |   |         |          |          |         |
|  | - Drier   | g               | 10  |         |          |          |         |
|  | - Evaporator  | approx. g       | 40  |         |          |          |         |
|  | - Condenser   | g               | 20  |         |          |          |         |
|  | - Pipe line   | approx. g       | 10  |         |          |          |         |
| <b>64 51 ... Evaporator Temperature regulator</b>    |   |                 | 1 147 328 012                             |         |          |          |         |
| Code Number  |   |                 | 9 ... 15                                  |         |          |          |         |
| Operating Voltage                                    |   | V               |   |         |          |          |         |
| <b>64 51 ... Evaporator Sensor</b>                   |   |                 | 1 368 638                                 |         |          |          |         |
| Code Number  |   |                 | -5 / 11,4 ... 11,9                        |         |          |          |         |
| resistance / temperature comparison                  |   | °C / kΩ         | 0 / 8,8 ... 9,2                           |         |          |          |         |
|  |   |                 | 5 / 6,8 ... 7,2                           |         |          |          |         |
|  |   |                 | 10 / 5,3 ... 5,6                          |         |          |          |         |
|  |   |                 | 15 / 4,2 ... 4,5                          |         |          |          |         |
|  |   |                 | 20 / 3,3 ... 3,6                          |         |          |          |         |
|  |   |                 | 25 / 2,6 ... 2,9                          |         |          |          |         |
|  |   |                 | 30 / 2,1 ... 2,3                          |         |          |          |         |
|  |   |                 | 35 / 1,7 ... 1,9                          |         |          |          |         |
| <b>64 51 ... Blower Motor</b>                        |   |                 | see BMW - Parts Catalog                   |         |          |          |         |
| Code Number  |   |                 | 13 ± 0,26                                 |         |          |          |         |
| Testing voltage                                      |   | V               | 9 ... 15                                  |         |          |          |         |
| Operating Voltage                                    |   | V               | 12  |         |          |          |         |
| Power input  |   | approx. A       | 3600 ... 4000                             |         |          |          |         |
| Speed  |   | 1/min           | 1,0                                       |         |          |          |         |
| Axial play   |   | max. mm         |   |         |          |          |         |
| <b>64 51 ... Expansion Valve</b>                     |   |                 | see BMW - Parts Catalog                   |         |          |          |         |
| Code Number  |   |                 | 14  |         |          |          |         |
| Inlet pressure                                       |   | bar             | 1,8                                       |         |          |          |         |
| Outlet pressure                                      |   | bar             | 1 ... 2                                   |         |          |          |         |
| Pressure for leak test with leak detector            |   | bar             |   |         |          |          |         |

|           |   |         |   |         |          |          |         |
|-----------|---|---------|---|---------|----------|----------|---------|
| change to |  ECE (A)            | Year    | 79 - 87                                   | 75 - 79 | 75 - 81  | 77 - 89  | 83 - 89 |
|           |  US Models        | Version | ECE - Models with Mechanical transmission |         |          |          |         |
|           |  Japanese Models | Model   | 628 CS i                                  | 630 CS  | 633 CS i | 635 CS i | M 6     |





|                       |                                   |             |  |
|-----------------------|-----------------------------------|-------------|--|
| <b>Technical Data</b> | <b>Heater and Air Conditioner</b> | <b>Unit</b> |  |
|-----------------------|-----------------------------------|-------------|--|





|                             |                 |                         |                             |
|-----------------------------|-----------------|-------------------------|-----------------------------|
| <b>64 52 ... Compressor</b> |                 |                         |                             |
| Code Number                 |                 |                         | see BMW - Parts Catalog     |
| Speed range                 |                 | 1/min                   | 600 ... 8000                |
| Power input                 | - at 2800 1/min | approx. kW              | 4                           |
| Oil grade                   |                 | bar                     | see BMW Service Information |
| Oil volume                  |                 | approx. cm <sup>3</sup> | 170                         |





|                        |  |    |             |
|------------------------|--|----|-------------|
| <b>64 53 ... Drier</b> |  |    |             |
| Installed position     |  |    | vertical    |
| Safety cutout          |  | °C | 114 ... 120 |

|   |                         |     |               |
|---|-------------------------|-----|---------------|
| <b>64 53 ... Safety Switch (High Pressure Pressostat)</b> |                         |     |               |
| Testing voltage   |                         | V   | 13 ± 0,26     |
| Switching off pressure                                    | (with rising pressure)  | bar | 25,5 ... 27,7 |
| Switching on pressure                                     | (with falling pressure) | bar | 20,0 ... 22,5 |
| Operating pressure  |                         | bar | 0,034 ... 35  |





|  |                         |     |               |
|--|-------------------------|-----|---------------|
| <b>64 53 ... Safety Switch (Low Pressure Pressostat)</b> |                         |     |               |
| Testing voltage  |                         | V   | 13 ± 0,26     |
| Switching off pressure                                   | (with rising pressure)  | bar | 1,72 ... 2,22 |
| Switching on pressure                                    | (with falling pressure) | bar | 2,0 ... 2,4   |
| Operating pressure                                       |                         | bar | 0,034 ... 35  |




| change to  |  ECE              | Year      | 79 - 87                                  | 75 - 79  | 75 - 81          | 77 - 89  | 83 - 89    |
|--|---|-----------|--|----------|------------------|--|------------|
|  |  US Models       | Version   | ECE - Models with Automatic transmission |          |                  |  |            |
|  |  Japanese Models | Model     | 628 CS i A                               | 630 CS A | 633 CS i A       | 633 CS i A  | 635 CS i A |
| Technical Data   | Heater and Air Conditioner  | Unit      |  |          |                  |  |            |
| <b>64 11 ... Control Unit</b>  |   |           |  |          |                  |  |            |
| Code Number  |   |           | see BMW - Parts Catalog                  |          |                  |  |            |
| Operating Voltage  |   | V         | 0 ... 15                                 |          |                  |  |            |
| Range  |   | °C        | 12 ± 3 ... 49,5 ± 3,5                    |          |                  |  |            |
|  | > Model ' 83  | °C        | 14,5 ± 3 ... 55,5 ± 4,5                  |          |                  |  |            |
| Cycle time   | (for water valve)   | sec.      | 3,3 ± 0,7                                |          |                  |  |            |
| <b>64 11 ... Passenger Compartment Temperature Sensor</b>  |   |           |  |          |                  |  |            |
| Code Number  | (without air conditioner)   |           | see BMW - Parts Catalog                  |          |                  |  |            |
| resistance / temperature comparison  |   | °C / kΩ   | 0  | /        | 32,4 ... 37,7    |  |            |
|  |   |           | 5  | /        | 24,8 ... 28,9    |  |            |
|  |   |           | 10                                       | /        | 19,4 ... 22,1    |  |            |
|  |   |           | 15                                       | /        | 15,1 ... 17,2    |  |            |
|  |   |           | 20                                       | /        | 12,0 ... 13,3    |  |            |
|  |   |           | 25                                       | /        | 9,5 ... 10,5     |  |            |
|  |   |           | 30                                       | /        | 7,5 ... 8,4      |  |            |
|  |   |           | 35                                       | /        | 5,9 ... 6,8      |  |            |
|  |   |           | 40                                       | /        | 4,7 ... 5,4      |  |            |
| Resistance between connections 1 and 3 at 25°C<br>(PTC-resistance value) (only with air conditioner) |   | Ω         | 24,5 ... 42                              |          |                  |  |            |
| <b>64 11 ... Heater Temperature Sensor</b>   |   |           |  |          |                  |  |            |
| Code Number  |   |           | 1 368 649                                |          |                  |  |            |
| resistance / temperature comparison  |   | °C / kΩ   | -20                                      | /        | 84,39 ... 109,61 |  |            |
|  |   |           | -10                                      | /        | 48,58 ... 62,09  |  |            |
|  |   |           | 0  | /        | 28,89 ... 36,4   |  |            |
|  |   |           | 20                                       | /        | 11,13 ... 13,83  |  |            |
|  |   |           | 25                                       | /        | 9,0 ... 11,0     |  |            |
|  |   |           | 60                                       | /        | 2,19 ... 2,78    |  |            |
|  |   |           | 100                                      | /        | 0,58 ... 0,77    |  |            |
| <b>64 11 ... Blower Motor</b>  |   |           |  |          |                  |  |            |
| Code Number  |   |           | see BMW - Parts Catalog                  |          |                  |  |            |
| Testing voltage  |   | V         | 13 ± 0,26                                |          |                  |  |            |
| Operating Voltage  |   | V         | 9 ... 15                                 |          |                  |  |            |
| Power input  |   | approx. A | 12                                       |          |                  |  |            |
| Speed  |   | 1/min     | 3600 ... 4000                            |          |                  |  |            |
| Axial play   |   | max. mm   | 1,0                                      |          |                  |  |            |


| change to  |  ECE<br> US Models<br> Japanese Models | Year                  | 79 - 87  | 75 - 79  | 75 - 81    | 77 - 89  | 83 - 89    |
|--|--|-----------------------|--|----------|------------|--|------------|
|  |  | Version               | ECE - Models with Automatic transmission       |          |            |  |            |
|  |  | Model                 | 628 CS i A                                     | 630 CS A | 633 CS i A | 633 CS i A  | 635 CS i A |
| <b>Technical Data</b>                                      | <b>Heater and Air Conditioner</b>  | <b>Unit</b>           |  |          |            |  |            |
| <b>64 11 ... Control Unit</b>                              |  |                       |  |          |            |  |            |
| <b>64 12 ... Heater ADDITIONAL HEATER</b>                  |  |                       |  |          |            |  |            |
| Type   |  |                       | B 1 L  |          |            |  |            |
| Fuel   |  |                       | regular grade gasoline, premium grade gasoline |          |            |  |            |
| Testing voltage  |  | V                     | 13 ± 0,26                                      |          |            |  |            |
| Operating Voltage  |  | V                     | 10 ... 14                                      |          |            |  |            |
| Fuel consumption at testing voltage                        |  | ltr / h               | 0,23 ... 0,26                                  |          |            |  |            |
| Power consumption  |  | W                     | 36 ... 44                                      |          |            |  |            |
| Blower speed at testing voltage                            |  | 1/min                 | 7100 ... 8100                                  |          |            |  |            |
| <b>64 12 ... Fuel Pump ADDITIONAL HEATER</b>               |  |                       |  |          |            |  |            |
| Testing voltage  |  | V                     | 13 ± 0,26                                      |          |            |  |            |
| Operating Voltage  |  | V                     | 9 ... 15                                       |          |            |  |            |
| Power consumption  |  | approx. W             | 14   |          |            |  |            |
| Pump frequency   |  | approx. Hz            | 3,9  |          |            |  |            |
| Delivery rate  |  | cm <sup>3</sup> / min | 3,8 ... 4,2                                    |          |            |  |            |
| Installed position of drain u                              |  | approx. °             | 15 ... 90                                      |          |            |  |            |
| <b>64 12 ... Glow Plug ADDITIONAL HEATER</b>               |  |                       |  |          |            |  |            |
| Type   |  |                       | Beru 191 GS                                    |          |            |  |            |
| Testing voltage  |  | V                     | 3,2 ± 0,2                                      |          |            |  |            |
| Power consumption at testing voltage                       |  | approx. A             | 8  |          |            |  |            |
| Glow temperature of heating after 60 sec. switched on time |  | °C                    | 760  |          |            |  |            |
| <b>64 12 ... Control Unit ADDITIONAL HEATER</b>            |  |                       |  |          |            |  |            |
| Code Number  |  |                       | 20 1575 500 000                                |          |            |  |            |
| Operating Voltage  |  | V                     | 9 ... 15                                       |          |            |  |            |
| <b>64 12 ... Automatic Cutout ADDITIONAL HEATER</b>        |  |                       |  |          |            |  |            |
| Code Number  |  |                       |  |          |            |  |            |
| Switching temperature                                      |  | °C                    | 162 ... 180                                    |          |            |  |            |
| <b>64 12 ... Temperature Sensor ADDITIONAL HEATER</b>      |  |                       |  |          |            |  |            |
| Power consumption  |  | max. A                | 20   |          |            |  |            |
| Switching-off temperature                                  |  | °C                    | 76 ... 84                                      |          |            |  |            |
| Switching-on temperature                                   |  | °C                    | 61 ... 69                                      |          |            |  |            |
| Function   |  |                       | opens with increasing temperature              |          |            |  |            |
| <b>64 50 ... Air Conditioner</b>                           |  |                       |  |          |            |  |            |
| Refrigerent  |  |                       | see BMW - Service Information                  |          |            |  |            |
| Boiling point  |  | °C                    | -29,8  |          |            |  |            |
|  | - at   | bar                   | 1  |          |            |  |            |
| Volume   |  | g                     | 1000   |          |            |  |            |
|  | > Model ' 85   | g                     | 1100 ± 25                                      |          |            |  |            |
|  | with rear air conditioner  | g                     | 1800 ± 25                                      |          |            |  |            |
| Charging pressure  |  | bar                   | 8  |          |            |  |            |


| change to  |  ECE              | Year            | 79 - 87                                  | 75 - 79  | 75 - 81       | 77 - 89  | 83 - 89    |
|--|---|-----------------|--|----------|---------------|--|------------|
|  |  US Models       | Version         | ECE - Models with Automatic transmission |          |               |  |            |
|  |  Japanese Models | Model           | 628 CS i A                               | 630 CS A | 633 CS i A    | 633 CS i A  | 635 CS i A |
| Technical Data                                       | Heater and Air Conditioner  | Unit            |  |          |               |  |            |
| <b>64 11 ... Control Unit</b>                        |   |                 |  |          |               |  |            |
| <b>64 50 ... Refrigerating machine oil</b>           |   |                 |  |          |               |  |            |
| Oil grade  |   |                 | see BMW - Service Information            |          |               |  |            |
| Volume   | - Swash plate compressor  | cm <sup>3</sup> | 300                                      |          |               |  |            |
|  | - Impeller cell Compression   | cm <sup>3</sup> | 200                                      |          |               |  |            |
| Magnetic clutch                                      | Power consumption   | A               | 3,3                                      |          |               |  |            |
| Refrigerating machine oil added after replacement of |   |                 |  |          |               |  |            |
|  | - Drier   | g               | 10                                       |          |               |  |            |
|  | - Evaporator  | approx. g       | 40                                       |          |               |  |            |
|  | - Condenser   | g               | 20                                       |          |               |  |            |
|  | - Pipe line   | approx. g       | 10                                       |          |               |  |            |
| <b>64 51 ... Evaporator Temperature regulator</b>    |   |                 |  |          |               |  |            |
| Code Number  |   |                 | 1 147 328 012                            |          |               |  |            |
| Operating Voltage                                    |   |                 | 9 ... 15                                 |          |               |  |            |
| <b>64 51 ... Evaporator Sensor</b>                   |   |                 |  |          |               |  |            |
| Code Number  |   |                 | 1 368 638                                |          |               |  |            |
| resistance / temperature comparison                  |   |                 | °C / kΩ                                  |          |               |  |            |
|  |   |                 | -5                                       | /        | 11,4 ... 11,9 |  |            |
|  |   |                 | 0  | /        | 8,8 ... 9,2   |  |            |
|  |   |                 | 5  | /        | 6,8 ... 7,2   |  |            |
|  |   |                 | 10                                       | /        | 5,3 ... 5,6   |  |            |
|  |   |                 | 15                                       | /        | 4,2 ... 4,5   |  |            |
|  |   |                 | 20                                       | /        | 3,3 ... 3,6   |  |            |
|  |   |                 | 25                                       | /        | 2,6 ... 2,9   |  |            |
|  |   |                 | 30                                       | /        | 2,1 ... 2,3   |  |            |
|  |   |                 | 35                                       | /        | 1,7 ... 1,9   |  |            |
| <b>64 51 ... Blower Motor</b>                        |   |                 |  |          |               |  |            |
| Code Number  |   |                 | see BMW - Parts Catalog                  |          |               |  |            |
| Testing voltage                                      |   |                 | V  |          |               |  |            |
|  |   |                 | 13 ± 0,26                                |          |               |  |            |
| Operating Voltage                                    |   |                 | V  |          |               |  |            |
|  |   |                 | 9 ... 15                                 |          |               |  |            |
| Power input  |   |                 | approx. A                                |          |               |  |            |
|  |   |                 | 12                                       |          |               |  |            |
| Speed  |   |                 | 1/min                                    |          |               |  |            |
|  |   |                 | 3600 ... 4000                            |          |               |  |            |
| Axial play   |   |                 | max. mm                                  |          |               |  |            |
|  |   |                 | 1,0                                      |          |               |  |            |






| change to   |  ECE               | Year                       | 79 - 87                                  | 75 - 79                       | 75 - 81    | 77 - 89   | 83 - 89    |
|---|--|----------------------------|--|-------------------------------|------------|---|------------|
|   |  US Models        | Version                    | ECE - Models with Automatic transmission |                               |            |   |            |
|   |  Japanese Models | Model                      | 628 CS i A                               | 630 CS A                      | 633 CS i A | 633 CS i A  | 635 CS i A |
| Technical Data  |  | Heater and Air Conditioner | Unit                                     |                               |            |   |            |
| <b>64 11 ... Control Unit</b>                             |  |                            |  |                               |            |   |            |
| <b>64 51 ... Expansion Valve</b>                          |  |                            |  |                               |            |   |            |
| Code Number   |  |                            | see BMW - Parts Catalog                  |                               |            |   |            |
| Inlet pressure  |  |                            | bar                                      | 14                            |            |   |            |
| Outlet pressure   |  |                            | bar                                      | 1,8                           |            |   |            |
| Pressure for leak test with leak detector                 |  |                            | bar                                      | 1 ... 2                       |            |   |            |
| <b>64 52 ... Compressor</b>                               |  |                            |  |                               |            |   |            |
| Code Number   |  |                            | see BMW - Parts Catalog                  |                               |            |   |            |
| Speed range   |  |                            | 1/min                                    | 600 ... 8000                  |            |   |            |
| Power input - at 2800 1/min                               |  |                            | approx. kW                               | 4                             |            |   |            |
| Oil grade   |  |                            | bar                                      | see BMW - Service Information |            |   |            |
| Oil volume  |  |                            | approx. cm <sup>3</sup>                  | 170                           |            |   |            |
| <b>64 53 ... Drier</b>                                    |  |                            |  |                               |            |   |            |
| Installed position  |  |                            | vertical                                 |                               |            |   |            |
| Safety cutout   |  |                            | °C                                       | 114 ... 120                   |            |   |            |
| <b>64 53 ... Safety Switch (High Pressure Pressostat)</b> |  |                            |  |                               |            |   |            |
| Testing voltage   |  |                            | V  | 13 ± 0,26                     |            |   |            |
| Switching off pressure (with rising pressure)             |  |                            | bar                                      | 25,5 ... 27,7                 |            |   |            |
| Switching on pressure (with falling pressure)             |  |                            | bar                                      | 20,0 ... 22,5                 |            |   |            |
| Operating pressure  |  |                            | bar                                      | 0,034 ... 35                  |            |   |            |
| <b>64 53 ... Safety Switch (Low Pressure Pressostat)</b>  |  |                            |  |                               |            |   |            |
| Testing voltage   |  |                            | V  | 13 ± 0,26                     |            |   |            |
| Switching off pressure (with rising pressure)             |  |                            | bar                                      | 1,72 ... 2,22                 |            |   |            |
| Switching on pressure (with falling pressure)             |  |                            | bar                                      | 2,0 ... 2,4                   |            |   |            |
| Operating pressure  |  |                            | bar                                      | 0,034 ... 35                  |            |   |            |

| change to  |  ECE<br> ECE (A)<br> Japanese Models | Year      | 76 - 77                 | 77 - 84  | 77 - 84          | 84 - 89  | 84 - 89    | 86 - 88 |
|--|---|-----------|-------------------------|----------|------------------|----------|------------|---------|
|  |   | Version   | US Models               |          |                  |          |            |         |
|  |   | Model     | 630 CS i                | 633 CS i | 633 CS i A       | 635 CS i | 635 CS i A | M 6     |
| Technical Data   | Heater and Air Conditioner  | Unit      |                         |          |                  |          |            |         |
| <b>64 11 ... Control Unit</b>  |   |           |                         |          |                  |          |            |         |
| Code Number  |   |           | see BMW - Parts Catalog |          |                  |          |            |         |
| Operating Voltage  |   | V         | 0 ... 15                |          |                  |          |            |         |
| Range  |   | °C        | 12 ± 3 ... 49,5 ± 3,5   |          |                  |          |            |         |
|  | > Model ' 83  | °C        | 14,5 ± 3 ... 55,5 ± 4,5 |          |                  |          |            |         |
| Cycle time   | (for water valve)   | sec.      | 3,3 ± 0,7               |          |                  |          |            |         |
| <b>64 11 ... Passenger Compartment Temperature Senseo</b>  |   |           |                         |          |                  |          |            |         |
| Code Number  | (without air conditioner)   |           | see BMW - Parts Catalog |          |                  |          |            |         |
| resistance / temperature comparison  |   | °C / kΩ   | 0                       | /        | 32,4 ... 37,7    |          |            |         |
|  |   |           | 5                       | /        | 24,8 ... 28,9    |          |            |         |
|  |   |           | 10                      | /        | 19,4 ... 22,1    |          |            |         |
|  |   |           | 15                      | /        | 15,1 ... 17,2    |          |            |         |
|  |   |           | 20                      | /        | 12,0 ... 13,3    |          |            |         |
|  |   |           | 25                      | /        | 9,5 ... 10,5     |          |            |         |
|  |   |           | 30                      | /        | 7,5 ... 8,4      |          |            |         |
|  |   |           | 35                      | /        | 5,9 ... 6,8      |          |            |         |
|  |   |           | 40                      | /        | 4,7 ... 5,4      |          |            |         |
| Resistance between connections 1 and 3 at 25°C<br>(PTC-resistance value) (only with air conditioner) |   | Ω         | 24,5 ... 42             |          |                  |          |            |         |
| <b>64 11 ... Heater Temperature Sensor</b>   |   |           |                         |          |                  |          |            |         |
| Code Number  |   |           | 1 368 649               |          |                  |          |            |         |
| resistance / temperature comparison  |   | °C / kΩ   | -20                     | /        | 84,39 ... 109,61 |          |            |         |
|  |   |           | -10                     | /        | 48,58 ... 62,09  |          |            |         |
|  |   |           | 0                       | /        | 28,89 ... 36,4   |          |            |         |
|  |   |           | 20                      | /        | 11,13 ... 13,83  |          |            |         |
|  |   |           | 25                      | /        | 9,0 ... 11,0     |          |            |         |
|  |   |           | 60                      | /        | 2,19 ... 2,78    |          |            |         |
|  |   |           | 100                     | /        | 0,58 ... 0,77    |          |            |         |
| <b>64 11 ... Blower Motor</b>  |   |           |                         |          |                  |          |            |         |
| Code Number  |   |           | see BMW - Parts Catalog |          |                  |          |            |         |
| Testing voltage  |   | V         | 13 ± 0,26               |          |                  |          |            |         |
| Operating Voltage  |   | V         | 9 ... 15                |          |                  |          |            |         |
| Power input  |   | approx. A | 12                      |          |                  |          |            |         |
| Speed  |   | 1/min     | 3600 ... 4000           |          |                  |          |            |         |
| Axial play   |   | max. mm   | 1,0                     |          |                  |          |            |         |

| change to  |  | ECE                        | Year    | 76 - 77   | 77 - 84  | 77 - 84    | 84 - 89  | 84 - 89    | 86 - 88 |  |
|--|--|----------------------------|---------|-----------|--|------------|----------|------------|---------|--|
|  |  | ECE (A)                    | Version | US Models |  |            |          |            |         |  |
|  |  | Japanese Models            | Model   | 630 CS i  | 633 CS i                                       | 633 CS i A | 635 CS i | 635 CS i A | M 6     |  |
| Technical Data   |  | Heater and Air Conditioner |         | Unit      |  |            |          |            |         |  |
| <b>64 12 ... Heater ADDITIONAL HEATER</b>                  |  |                            |         |           |  |            |          |            |         |  |
| Type   |  |                            |         |           | B 1 L  |            |          |            |         |  |
| Fuel   |  |                            |         |           | regular grade gasoline, premium grade gasoline |            |          |            |         |  |
| Testing voltage  | V  |                            |         |           | 13 ± 0,26                                      |            |          |            |         |  |
| Operating Voltage  | V  |                            |         |           | 10 ... 14                                      |            |          |            |         |  |
| Fuel consumption at testing voltage                        | ltr / h  |                            |         |           | 0,23 ... 0,26                                  |            |          |            |         |  |
| Power consumption  | W  |                            |         |           | 36 ... 44                                      |            |          |            |         |  |
| Blower speed at testing voltage                            | 1/min  |                            |         |           | 7100 ... 8100                                  |            |          |            |         |  |
| <b>64 12 ... Fuel Pump ADDITIONAL HEATER</b>               |  |                            |         |           |  |            |          |            |         |  |
| Testing voltage  | V  |                            |         |           | 13 ± 0,26                                      |            |          |            |         |  |
| Operating Voltage  | V  |                            |         |           | 9 ... 15                                       |            |          |            |         |  |
| Power consumption  | approx. W  |                            |         |           | 14   |            |          |            |         |  |
| Pump frequency   | approx. Hz   |                            |         |           | 3,9  |            |          |            |         |  |
| Delivery rate  | cm <sup>3</sup> / min  |                            |         |           | 3,8 ... 4,2                                    |            |          |            |         |  |
| Installed position of drain u                              | approx. °  |                            |         |           | 15 ... 90                                      |            |          |            |         |  |
| <b>64 12 ... Glow Plug ADDITIONAL HEATER</b>               |  |                            |         |           |  |            |          |            |         |  |
| Type   |  |                            |         |           | Beru 191 GS                                    |            |          |            |         |  |
| Testing voltage  | V  |                            |         |           | 3,2 ± 0,2                                      |            |          |            |         |  |
| Power consumption at testingvoltage                        | approx. A  |                            |         |           | 8  |            |          |            |         |  |
| Glow temperature of heating after 60 sec. switched on time | °C   |                            |         |           | 760  |            |          |            |         |  |
| <b>64 12 ... Control Unit ADDITIONAL HEATER</b>            |  |                            |         |           |  |            |          |            |         |  |
| Code Number  |  |                            |         |           | 20 1575 500 000                                |            |          |            |         |  |
| Operating Voltage  | V  |                            |         |           | 9 ... 15                                       |            |          |            |         |  |
| <b>64 12 ... Automatic Cutout ADDITIONAL HEATER</b>        |  |                            |         |           |  |            |          |            |         |  |
| Code Number  |  |                            |         |           |  |            |          |            |         |  |
| Switching temperature                                      | °C   |                            |         |           | 162 ... 180                                    |            |          |            |         |  |
| <b>64 12 ... Temperature Sensor ADDITIONAL HEATER</b>      |  |                            |         |           |  |            |          |            |         |  |
| Power consumption  | max. A   |                            |         |           | 20   |            |          |            |         |  |
| Switching-off temperature                                  | °C   |                            |         |           | 76 ... 84                                      |            |          |            |         |  |
| Switching-on temperature                                   | °C   |                            |         |           | 61 ... 69                                      |            |          |            |         |  |
| Function   |  |                            |         |           | opens with increasing temperature              |            |          |            |         |  |
| <b>64 50 ... Air Conditioner</b>                           |  |                            |         |           |  |            |          |            |         |  |
| Refrigerent  |  |                            |         |           | see BMW - Service Information                  |            |          |            |         |  |
| Boiling point  | °C   |                            |         |           | -29,8  |            |          |            |         |  |
|  | - at   |                            |         |           | bar  |            |          |            |         |  |
| Volume   | g  |                            |         |           | 1000   |            |          |            |         |  |
|  | > Model ' 85   |                            |         |           | g  |            |          |            |         |  |
|  | with rear air conditioner  |                            |         |           | g  |            |          |            |         |  |
| Charging pressure  | bar  |                            |         |           | 8  |            |          |            |         |  |

| change to  |  | ECE             | Year            | 76 - 77                       | 77 - 84  | 77 - 84    | 84 - 89  | 84 - 89    | 86 - 88 |
|--|---|-----------------|-----------------|-------------------------------|----------|------------|----------|------------|---------|
|  |   | ECE (A)         | Version         | US Models                     |          |            |          |            |         |
|  |   | Japanese Models | Model           | 630 CS i                      | 633 CS i | 633 CS i A | 635 CS i | 635 CS i A | M 6     |
| Technical Data                                       | Heater and Air Conditioner  |                 | Unit            |                               |          |            |          |            |         |
| <b>64 50 ... Refrigerating machine oil</b>           |   |                 |                 |                               |          |            |          |            |         |
| Oil grade  |   |                 |                 | see BMW - Service Information |          |            |          |            |         |
| Volume   | - Swash plate compressor  |                 | cm <sup>3</sup> | 300                           |          |            |          |            |         |
|  | - Impeller cell Compression   |                 | cm <sup>3</sup> | 200                           |          |            |          |            |         |
| Magnetic clutch                                      | Power consumption   |                 | A               | 3,3                           |          |            |          |            |         |
| Refrigerating machine oil added after replacement of |   |                 |                 |                               |          |            |          |            |         |
|  | - Drier   |                 | g               | 10                            |          |            |          |            |         |
|  | - Evaporator  |                 | approx. g       | 40                            |          |            |          |            |         |
|  | - Condenser   |                 | g               | 20                            |          |            |          |            |         |
|  | - Pipe line   |                 | approx. g       | 10                            |          |            |          |            |         |
| <b>64 51 ... Evaporator Temperature regulator</b>    |   |                 |                 |                               |          |            |          |            |         |
| Code Number  |   |                 |                 | 1 147 328 012                 |          |            |          |            |         |
| Operating Voltage                                    |   |                 |                 | 9 ... 15                      |          |            |          |            |         |
| <b>64 51 ... Evaporator Sensor</b>                   |   |                 |                 |                               |          |            |          |            |         |
| Code Number  |   |                 |                 | 1 368 638                     |          |            |          |            |         |
| resistance / temperature comparison                  |   |                 |                 | °C / kΩ                       |          |            |          |            |         |
|  |   |                 |                 | -5 / 11,4 ... 11,9            |          |            |          |            |         |
|  |   |                 |                 | 0 / 8,8 ... 9,2               |          |            |          |            |         |
|  |   |                 |                 | 5 / 6,8 ... 7,2               |          |            |          |            |         |
|  |   |                 |                 | 10 / 5,3 ... 5,6              |          |            |          |            |         |
|  |   |                 |                 | 15 / 4,2 ... 4,5              |          |            |          |            |         |
|  |   |                 |                 | 20 / 3,3 ... 3,6              |          |            |          |            |         |
|  |   |                 |                 | 25 / 2,6 ... 2,9              |          |            |          |            |         |
|  |   |                 |                 | 30 / 2,1 ... 2,3              |          |            |          |            |         |
|  |   |                 |                 | 35 / 1,7 ... 1,9              |          |            |          |            |         |
| <b>64 51 ... Blower Motor</b>                        |   |                 |                 |                               |          |            |          |            |         |
| Code Number  |   |                 |                 | see BMW - Parts Catalog       |          |            |          |            |         |
| Testing voltage                                      |   |                 |                 | V                             |          |            |          |            |         |
|  |   |                 |                 | 13 ± 0,26                     |          |            |          |            |         |
| Operating Voltage                                    |   |                 |                 | V                             |          |            |          |            |         |
|  |   |                 |                 | 9 ... 15                      |          |            |          |            |         |
| Power input  |   |                 |                 | approx. A                     |          |            |          |            |         |
|  |   |                 |                 | 12                            |          |            |          |            |         |
| Speed  |   |                 |                 | 1/min                         |          |            |          |            |         |
|  |   |                 |                 | 3600 ... 4000                 |          |            |          |            |         |
| Axial play   |   |                 |                 | max. mm                       |          |            |          |            |         |
|  |   |                 |                 | 1,0                           |          |            |          |            |         |
| <b>64 51 ... Expansion Valve</b>                     |   |                 |                 |                               |          |            |          |            |         |
| Code Number  |   |                 |                 | see BMW - Parts Catalog       |          |            |          |            |         |
| Inlet pressure                                       |   |                 |                 | bar                           |          |            |          |            |         |
|  |   |                 |                 | 14                            |          |            |          |            |         |
| Outlet pressure                                      |   |                 |                 | bar                           |          |            |          |            |         |
|  |   |                 |                 | 1,8                           |          |            |          |            |         |
| Pressure for leak test with leak detector            |   |                 |                 | bar                           |          |            |          |            |         |
|  |   |                 |                 | 1 ... 2                       |          |            |          |            |         |

|           |   |         |           |          |            |          |            |         |
|-----------|---|---------|-----------|----------|------------|----------|------------|---------|
| change to |  ECE                | Year    | 76 - 77   | 77 - 84  | 77 - 84    | 84 - 89  | 84 - 89    | 86 - 88 |
|           |  ECE (A)           | Version | US Models |          |            |          |            |         |
|           |  Japanese Models | Model   | 630 CS i  | 633 CS i | 633 CS i A | 635 CS i | 635 CS i A | M 6     |



|                       |                                   |             |  |
|-----------------------|-----------------------------------|-------------|--|
| <b>Technical Data</b> | <b>Heater and Air Conditioner</b> | <b>Unit</b> |  |
|-----------------------|-----------------------------------|-------------|--|


|                             |                 |                         |                               |
|-----------------------------|-----------------|-------------------------|-------------------------------|
| <b>64 52 ... Compressor</b> |                 |                         |                               |
| Code Number                 |                 |                         | see BMW - Parts Catalog       |
| Speed range                 |                 | 1/min                   | 600 ... 8000                  |
| Power input                 | - at 2800 1/min | approx. kW              | 4                             |
| Oil grade                   |                 | bar                     | see BMW - Service Information |
| Oil volume                  |                 | approx. cm <sup>3</sup> | 170                           |


|                        |  |    |             |
|------------------------|--|----|-------------|
| <b>64 53 ... Drier</b> |  |    |             |
| Installed position     |  |    | vertical    |
| Safety cutout          |  | °C | 114 ... 120 |

|   |                         |     |               |
|---|-------------------------|-----|---------------|
| <b>64 53 ... Safety Switch (High Pressure Pressostat)</b> |                         |     |               |
| Testing voltage   |                         | V   | 13 ± 0,26     |
| Switching off pressure                                    | (with rising pressure)  | bar | 25,5 ... 27,7 |
| Switching on pressure                                     | (with falling pressure) | bar | 20,0 ... 22,5 |
| Operating pressure  |                         | bar | 0,034 ... 35  |




|  |                         |     |               |
|--|-------------------------|-----|---------------|
| <b>64 53 ... Safety Switch (Low Pressure Pressostat)</b> |                         |     |               |
| Testing voltage  |                         | V   | 13 ± 0,26     |
| Switching off pressure                                   | (with rising pressure)  | bar | 1,72 ... 2,22 |
| Switching on pressure                                    | (with falling pressure) | bar | 2,0 ... 2,4   |
| Operating pressure                                       |                         | bar | 0,034 ... 35  |

| change to  |  ECE | Year   | 78 - 84                 | 78 - 84         | 84 - 88                 | 84 - 88  | 86 - 88    |     |
|--|---|--|-------------------------|-----------------|-------------------------|----------|------------|-----|
|  |   | ECE (A)  | Version                 | Japanese Models |                         |          |            |     |
|  |   |  US Models | Model                   | 633 CS i        | 633 CS i A              | 635 CS i | 635 CS i A | M 6 |
| Technical Data   | Heater and Air Conditioner  |  | Unit                    |                 |                         |          |            |     |
| <b>64 11 ... Control Unit</b>  |   |  |                         |                 |                         |          |            |     |
| Code Number  |   |  | see BMW - Parts Catalog |                 |                         |          |            |     |
| Operating Voltage  | V   |  | 0 ... 15                |                 |                         |          |            |     |
| Range  | °C  |  | 12 ± 3 ... 49,5 ± 3,5   |                 |                         |          |            |     |
|  | > Model ' 83  |  | °C                      |                 | 14,5 ± 3 ... 55,5 ± 4,5 |          |            |     |
| Cycle time   | (for water valve)   |  | sec.                    |                 | 3,3 ± 0,7               |          |            |     |
| <b>64 11 ... Passenger Compartment Temperature Senseo</b>  |   |  |                         |                 |                         |          |            |     |
| Code Number  | (without air conditioner)   |  | see BMW - Parts Catalog |                 |                         |          |            |     |
| resistance / temperature comparison  | °C / kΩ   |  | 0                       | /               | 32,4 ... 37,7           |          |            |     |
|  |   |  | 5                       | /               | 24,8 ... 28,9           |          |            |     |
|  |   |  | 10                      | /               | 19,4 ... 22,1           |          |            |     |
|  |   |  | 15                      | /               | 15,1 ... 17,2           |          |            |     |
|  |   |  | 20                      | /               | 12,0 ... 13,3           |          |            |     |
|  |   |  | 25                      | /               | 9,5 ... 10,5            |          |            |     |
|  |   |  | 30                      | /               | 7,5 ... 8,4             |          |            |     |
|  |   |  | 35                      | /               | 5,9 ... 6,8             |          |            |     |
|  |   |  | 40                      | /               | 4,7 ... 5,4             |          |            |     |
| Resistance between connections 1 and 3 at 25°C<br>(PTC-resistance value) (only with air conditioner) | Ω   |  | 24,5 ... 42             |                 |                         |          |            |     |
| <b>64 11 ... Heater Temperature Sensor</b>   |   |  |                         |                 |                         |          |            |     |
| Code Number  |   |  | 1 368 649               |                 |                         |          |            |     |
| resistance / temperature comparison  | °C / kΩ   |  | -20                     | /               | 84,39 ... 109,61        |          |            |     |
|  |   |  | -10                     | /               | 48,58 ... 62,09         |          |            |     |
|  |   |  | 0                       | /               | 28,89 ... 36,4          |          |            |     |
|  |   |  | 20                      | /               | 11,13 ... 13,83         |          |            |     |
|  |   |  | 25                      | /               | 9,0 ... 11,0            |          |            |     |
|  |   |  | 60                      | /               | 2,19 ... 2,78           |          |            |     |
|  |   |  | 100                     | /               | 0,58 ... 0,77           |          |            |     |
| <b>64 11 ... Blower Motor</b>  |   |  |                         |                 |                         |          |            |     |
| Code Number  |   |  | see BMW - Parts Catalog |                 |                         |          |            |     |
| Testing voltage  | V   |  | 13 ± 0,26               |                 |                         |          |            |     |
| Operating Voltage  | V   |  | 9 ... 15                |                 |                         |          |            |     |
| Power input  | approx. A   |  | 12                      |                 |                         |          |            |     |
| Speed  | 1/min   |  | 3600 ... 4000           |                 |                         |          |            |     |
| Axial play   | max. mm   |  | 1,0                     |                 |                         |          |            |     |

| change to  | <br>ECE | Year      | 78 - 84 | 78 - 84  | 84 - 88       | 84 - 88   | 86 - 88    |     |  |  |
|--|--|-----------|---------|--|---------------|-----------|------------|-----|--|--|
|  |  | ECE (A)   | Version | Japanese Models                                |               |           |            |     |  |  |
|  |  | US Models | Model   | 633 CS i                                       | 633 CS i A    | 635 CS i  | 635 CS i A | M 6 |  |  |
| Technical Data   | Heater and Air Conditioner   |           | Unit    |  |               |           |            |     |  |  |
| <b>64 12 ... Heater ADDITIONAL HEATER</b>                  |  |           |         |  |               |           |            |     |  |  |
| Type   |  |           |         | B 1 L  |               |           |            |     |  |  |
| Fuel   |  |           |         | regular grade gasoline, premium grade gasoline |               |           |            |     |  |  |
| Testing voltage  | V  |           |         |  | 13 ± 0,26     |           |            |     |  |  |
| Operating Voltage  | V  |           |         |  | 10 ... 14     |           |            |     |  |  |
| Fuel consumption at testing voltage                        | ltr / h  |           |         |  | 0,23 ... 0,26 |           |            |     |  |  |
| Power consumption  | W  |           |         |  | 36 ... 44     |           |            |     |  |  |
| Blower speed at testing voltage                            | 1/min  |           |         |  | 7100 ... 8100 |           |            |     |  |  |
| <b>64 12 ... Fuel Pump ADDITIONAL HEATER</b>               |  |           |         |  |               |           |            |     |  |  |
| Testing voltage  | V  |           |         |  | 13 ± 0,26     |           |            |     |  |  |
| Operating Voltage  | V  |           |         |  | 9 ... 15      |           |            |     |  |  |
| Power consumption  | approx. W  |           |         |  | 14            |           |            |     |  |  |
| Pump frequency   | approx. Hz   |           |         |  | 3,9           |           |            |     |  |  |
| Delivery rate  | cm <sup>3</sup> / min  |           |         |  | 3,8 ... 4,2   |           |            |     |  |  |
| Installed position of drain u                              | approx. °  |           |         |  | 15 ... 90     |           |            |     |  |  |
| <b>64 12 ... Glow Plug ADDITIONAL HEATER</b>               |  |           |         |  |               |           |            |     |  |  |
| Type   |  |           |         | Beru 191 GS                                    |               |           |            |     |  |  |
| Testing voltage  | V  |           |         |  | 3,2 ± 0,2     |           |            |     |  |  |
| Power consumption at testingvoltage                        | approx. A  |           |         |  | 8             |           |            |     |  |  |
| Glow temperature of heating after 60 sec. switched on time | °C   |           |         |  | 760           |           |            |     |  |  |
| <b>64 12 ... Control Unit ADDITIONAL HEATER</b>            |  |           |         |  |               |           |            |     |  |  |
| Code Number  |  |           |         | 20 1575 500 000                                |               |           |            |     |  |  |
| Operating Voltage  | V  |           |         |  | 9 ... 15      |           |            |     |  |  |
| <b>64 12 ... Automatic Cutout ADDITIONAL HEATER</b>        |  |           |         |  |               |           |            |     |  |  |
| Code Number  |  |           |         |  |               |           |            |     |  |  |
| Switching temperature                                      | °C   |           |         |  | 162 ... 180   |           |            |     |  |  |
| <b>64 12 ... Temperature Sensor ADDITIONAL HEATER</b>      |  |           |         |  |               |           |            |     |  |  |
| Power consumption  | max. A   |           |         |  | 20            |           |            |     |  |  |
| Switching-off temperature                                  | °C   |           |         |  | 76 ... 84     |           |            |     |  |  |
| Switching-on temperature                                   | °C   |           |         |  | 61 ... 69     |           |            |     |  |  |
| Function   |  |           |         | opens with increasing temperature              |               |           |            |     |  |  |
| <b>64 50 ... Air Conditioner</b>                           |  |           |         |  |               |           |            |     |  |  |
| Refrigerent  |  |           |         | see BMW - Service Information                  |               |           |            |     |  |  |
| Boiling point  | °C   |           |         |  | -29,8         |           |            |     |  |  |
|  | - at   | bar       |         |  |               | 1         |            |     |  |  |
| Volume   | g  |           |         |  | 1000          |           |            |     |  |  |
|  | > Model ' 85   | g         |         |  |               | 1100 ± 25 |            |     |  |  |
|  | with rear air conditioner  | g         |         |  |               | 1800 ± 25 |            |     |  |  |
| Charging pressure  | bar  |           |         |  | 8             |           |            |     |  |  |

| change to  | <br>ECE | Year      | 78 - 84         | 78 - 84                       | 84 - 88    | 84 - 88       | 86 - 88    |     |
|--|--|-----------|-----------------|-------------------------------|------------|---------------|------------|-----|
|  |  | ECE (A)   | Version         | Japanese Models               |            |               |            |     |
|  |  | US Models | Model           | 633 CS i                      | 633 CS i A | 635 CS i      | 635 CS i A | M 6 |
| Technical Data                                       | Heater and Air Conditioner   |           | Unit            |                               |            |               |            |     |
| <b>64 50 ... Refrigerating machine oil</b>           |  |           |                 |                               |            |               |            |     |
| Oil grade  |  |           |                 | see BMW - Service Information |            |               |            |     |
| Volume   | - Swash plate compressor   |           | cm <sup>3</sup> | 300                           |            |               |            |     |
|  | - Impeller cell Compression  |           | cm <sup>3</sup> | 200                           |            |               |            |     |
| Magnetic clutch                                      | Power consumption  |           | A               | 3,3                           |            |               |            |     |
| Refrigerating machine oil added after replacement of |  |           |                 |                               |            |               |            |     |
|  | - Drier  |           | g               | 10                            |            |               |            |     |
|  | - Evaporator   |           | approx. g       | 40                            |            |               |            |     |
|  | - Condenser  |           | g               | 20                            |            |               |            |     |
|  | - Pipe line  |           | approx. g       | 10                            |            |               |            |     |
| <b>64 51 ... Evaporator Temperature regulator</b>    |  |           |                 |                               |            |               |            |     |
| Code Number  |  |           |                 | 1 147 328 012                 |            |               |            |     |
| Operating Voltage                                    |  |           |                 | 9 ... 15                      |            |               |            |     |
| <b>64 51 ... Evaporator Sensor</b>                   |  |           |                 |                               |            |               |            |     |
| Code Number  |  |           |                 | 1 368 638                     |            |               |            |     |
| resistance / temperature comparison                  |  |           |                 | °C / kΩ                       |            |               |            |     |
|  |  |           |                 | -5                            | /          | 11,4 ... 11,9 |            |     |
|  |  |           |                 | 0                             | /          | 8,8 ... 9,2   |            |     |
|  |  |           |                 | 5                             | /          | 6,8 ... 7,2   |            |     |
|  |  |           |                 | 10                            | /          | 5,3 ... 5,6   |            |     |
|  |  |           |                 | 15                            | /          | 4,2 ... 4,5   |            |     |
|  |  |           |                 | 20                            | /          | 3,3 ... 3,6   |            |     |
|  |  |           |                 | 25                            | /          | 2,6 ... 2,9   |            |     |
|  |  |           |                 | 30                            | /          | 2,1 ... 2,3   |            |     |
|  |  |           |                 | 35                            | /          | 1,7 ... 1,9   |            |     |
| <b>64 51 ... Blower Motor</b>                        |  |           |                 |                               |            |               |            |     |
| Code Number  |  |           |                 | see BMW - Parts Catalog       |            |               |            |     |
| Testing voltage                                      |  |           |                 | V                             |            |               |            |     |
|  |  |           |                 | 13 ± 0,26                     |            |               |            |     |
| Operating Voltage                                    |  |           |                 | V                             |            |               |            |     |
|  |  |           |                 | 9 ... 15                      |            |               |            |     |
| Power input  |  |           |                 | approx. A                     |            |               |            |     |
|  |  |           |                 | 12                            |            |               |            |     |
| Speed  |  |           |                 | 1/min                         |            |               |            |     |
|  |  |           |                 | 3600 ... 4000                 |            |               |            |     |
| Axial play   |  |           |                 | max. mm                       |            |               |            |     |
|  |  |           |                 | 1,0                           |            |               |            |     |
| <b>64 51 ... Expansion Valve</b>                     |  |           |                 |                               |            |               |            |     |
| Code Number  |  |           |                 | see BMW - Parts Catalog       |            |               |            |     |
| Inlet pressure                                       |  |           |                 | bar                           |            |               |            |     |
|  |  |           |                 | 14                            |            |               |            |     |
| Outlet pressure                                      |  |           |                 | bar                           |            |               |            |     |
|  |  |           |                 | 1,8                           |            |               |            |     |
| Pressure for leak test with leak detector            |  |           |                 | bar                           |            |               |            |     |
|  |  |           |                 | 1 ... 2                       |            |               |            |     |



| change to   |  ECE         | Year                    | 78 - 84                       | 78 - 84    | 84 - 88  | 84 - 88    | 86 - 88 |
|---|--|-------------------------|-------------------------------|------------|----------|------------|---------|
|   |  ECE (A)    | Version                 | Japanese Models               |            |          |            |         |
|   |  US Models | Model                   | 633 CS i                      | 633 CS i A | 635 CS i | 635 CS i A | M 6     |
| <b>Technical Data</b>                                     | <b>Heater and Air Conditioner</b>  | <b>Unit</b>             |                               |            |          |            |         |
| <b>64 52 ... Compressor</b>                               |  |                         |                               |            |          |            |         |
| Code Number   |  |                         | see BMW - Parts Catalog       |            |          |            |         |
| Speed range   |  | 1/min                   | 600 ... 8000                  |            |          |            |         |
| Power input   | - at 2800 1/min  | approx. kW              | 4                             |            |          |            |         |
| Oil grade   |  | bar                     | see BMW - Service Information |            |          |            |         |
| Oil volume  |  | approx. cm <sup>3</sup> | 170                           |            |          |            |         |
| <b>64 53 ... Drier</b>                                    |  |                         |                               |            |          |            |         |
| Installed position  |  |                         | vertical                      |            |          |            |         |
| Safety cutout   |  | °C                      | 114 ... 120                   |            |          |            |         |
| <b>64 53 ... Safety Switch (High Pressure Pressostat)</b> |  |                         |                               |            |          |            |         |
| Testing voltage   |  | V                       | 13 ± 0,26                     |            |          |            |         |
| Switching off pressure                                    | (with rising pressure)   | bar                     | 25,5 ... 27,7                 |            |          |            |         |
| Switching on pressure                                     | (with falling pressure)  | bar                     | 20,0 ... 22,5                 |            |          |            |         |
| Operating pressure  |  | bar                     | 0,034 ... 35                  |            |          |            |         |
| <b>64 53 ... Safety Switch (Low Pressure Pressostat)</b>  |  |                         |                               |            |          |            |         |
| Testing voltage   |  | V                       | 13 ± 0,26                     |            |          |            |         |
| Switching off pressure                                    | (with rising pressure)   | bar                     | 1,72 ... 2,22                 |            |          |            |         |
| Switching on pressure                                     | (with falling pressure)  | bar                     | 2,0 ... 2,4                   |            |          |            |         |
| Operating pressure  |  | bar                     | 0,034 ... 35                  |            |          |            |         |



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