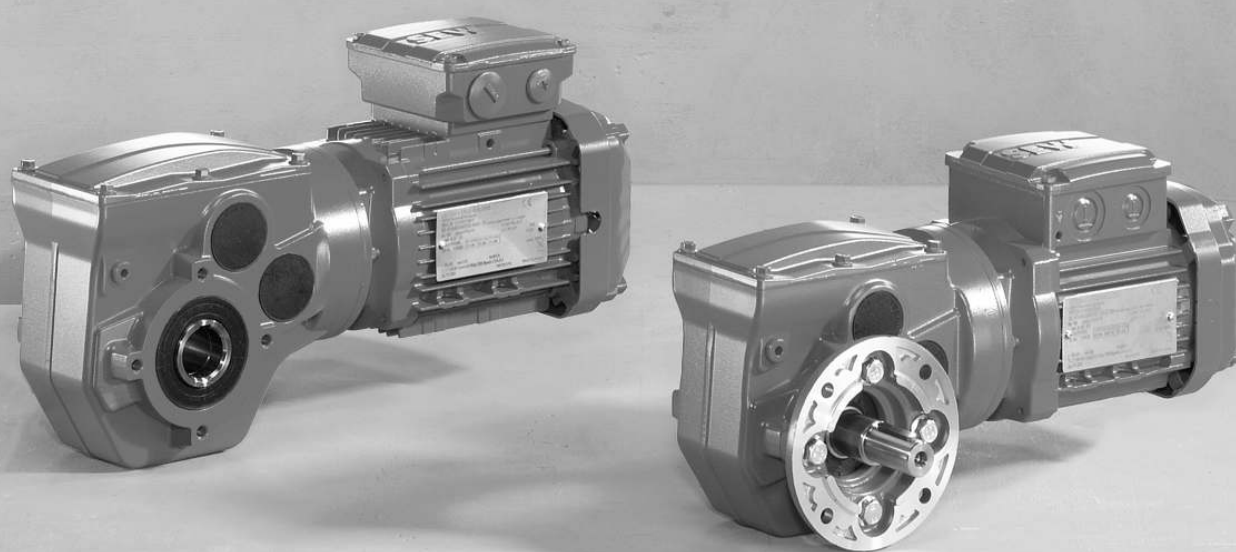




**SEW**  
**EURODRIVE**

## Addendum to the Catalog



**DRS../DR2S.. Gearmotors (IE1)**  
W..29/W..39 DRS../DR2S.. Gearmotors



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**1 W..9 SPIROPLAN® gear units****1.1 New sizes W..29 and W..39**

Our development engineers have now raised the bar with the W..9 SPIROPLAN® gear units. The ambitious goals for this new development have been met: high efficiency, low noise development, and light weight. A high number of design variants and a large gear ratio range also ensure the gear units are highly versatile. What makes SPIROPLAN® right-angle gear units stand out is their wear-free gearing. It ensures reliable power transmission and speed adjustment for your materials handling system.

Your benefits:

- Lightweight aluminum housing for lightweight machine designs, in particular with lightweight mobile applications
- Energy-efficient gear units with a high level of efficiency across the entire gear ratio range
- Finely stepped ratios
- Global service provided by SEW-EURODRIVE
- Quiet operation at any speed
- The universal interface by SEW-EURODRIVE enabled you to install all motors by SEW-EURODRIVE and their matching options. Service and maintenance can be performed by the user.

**1.2 Overview of the design variants**

The following designs are available:

| Designation | Description                                             |
|-------------|---------------------------------------------------------|
| WF..        | Solid shaft with key and flange                         |
| WA..        | Hollow shaft with keyway                                |
| WAF..       | Hollow shaft with keyway and flange                     |
| WH..        | Hollow shaft with shrink disk                           |
| WHF..       | Hollow shaft with shrink disk and flange                |
| WT..        | Hollow shaft with TorqLOC® hollow shaft mounting system |

**1.3 Overview of the technical data**

| W..29                  |                      |                             | W..39                  |                      |                             |
|------------------------|----------------------|-----------------------------|------------------------|----------------------|-----------------------------|
| Gear ratio<br><i>i</i> | $M_{amax}$<br><br>Nm | Motor power<br>4-pole<br>kW | Gear ratio<br><i>i</i> | $M_{amax}$<br><br>Nm | Motor power<br>4-pole<br>kW |
| 4.68 – 188.47          | 130                  | 0.12 – 1.1                  | 4.72 – 210.49          | 200                  | 0.12 – 1.5                  |

1.4 Lubricants

Premium lubricants from SEW-EURODRIVE used for the W..9 gear units:

|                                                                                                             |              |     |        |                                                                                                                        |        |                         |      |
|-------------------------------------------------------------------------------------------------------------|--------------|-----|--------|------------------------------------------------------------------------------------------------------------------------|--------|-------------------------|------|
| <div>W.9</div> <div></div> | [4]<br>-25   |     | +60    | <div></div> <div>CLP PG (- PSS)</div> | VG 220 | -25                     | +100 |
|                                                                                                             |              |     |        |                                                                                                                        |        | SEW GearOil Poly 220 E1 |      |
|                                                                                                             | SEW070040313 |     |        |                                                                                                                        |        |                         |      |
|                                                                                                             | -20          |     | +80    |                                                                                                                        |        | -20                     | +115 |
|                                                                                                             |              |     |        |                                                                                                                        |        | SEW GearOil Poly 460 E1 |      |
|                                                                                                             | SEW070040313 |     |        |                                                                                                                        |        |                         |      |
| -30                                                                                                         |              | +40 | VG 150 | -30                                                                                                                    | +85    |                         |      |
|                                                                                                             |              |     |        | SEW GearOil Poly 150 E1                                                                                                |        |                         |      |
|                                                                                                             |              |     |        | SEW070040313                                                                                                           |        |                         |      |

33790993419

[4] Standard

## 2 Geometrically possible combinations of W..29/W..39 DR2S..

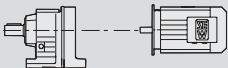
| WA29, $n_e=1400 \text{ min}^{-1}$                                                     |                  |               |                   |        | 130 Nm                             |                     |
|---------------------------------------------------------------------------------------|------------------|---------------|-------------------|--------|------------------------------------|---------------------|
| $n_a$<br>$\text{min}^{-1}$                                                            | $M_{amax}$<br>Nm | $F_{Ra}$<br>N | $\Phi_{(R)}$<br>° | i      | DR2S<br>63MS<br>63M<br>71MS<br>71M | DR2S<br>80M<br>80MK |
|  3   |                  |               |                   |        |                                    |                     |
| 7.4                                                                                   | 130              | 5000          | -                 | 188.47 |                                    |                     |
| 9.4                                                                                   | 130              | 5000          | -                 | 149.43 |                                    |                     |
| 11                                                                                    | 130              | 5000          | -                 | 131.50 |                                    |                     |
| 12                                                                                    | 130              | 5000          | -                 | 119.55 |                                    |                     |
| 13                                                                                    | 130              | 5000          | -                 | 108.68 |                                    |                     |
| 14                                                                                    | 130              | 5000          | -                 | 99.87  |                                    |                     |
| 15                                                                                    | 130              | 5000          | -                 | 93.58  |                                    |                     |
| 17                                                                                    | 130              | 5000          | -                 | 83.41  |                                    |                     |
| 18                                                                                    | 130              | 5000          | -                 | 78.02  |                                    |                     |
| 19                                                                                    | 130              | 5000          | -                 | 74.19  |                                    |                     |
| 20                                                                                    | 130              | 5000          | -                 | 69.68  |                                    |                     |
| 22                                                                                    | 130              | 5000          | -                 | 62.41  |                                    |                     |
| 25                                                                                    | 130              | 5000          | -                 | 56.74  |                                    |                     |
| 27                                                                                    | 130              | 5000          | -                 | 52.14  |                                    |                     |
| 28                                                                                    | 130              | 5000          | -                 | 49.58  |                                    |                     |
| 32                                                                                    | 130              | 5000          | -                 | 43.54  |                                    |                     |
| 36                                                                                    | 130              | 5000          | -                 | 38.73  |                                    |                     |
| 38                                                                                    | 130              | 5000          | -                 | 36.38  |                                    |                     |
| 45                                                                                    | 130              | 4720          | -                 | 30.99  |                                    |                     |
| 50                                                                                    | 130              | 4520          | -                 | 28.17  |                                    |                     |
| 54                                                                                    | 130              | 4350          | -                 | 25.89  |                                    |                     |
|  2 |                  |               |                   |        |                                    |                     |
| 60                                                                                    | 130              | 4340          | -                 | 23.29  |                                    |                     |
| 66                                                                                    | 130              | 4160          | -                 | 21.17  |                                    |                     |
| 72                                                                                    | 130              | 4000          | -                 | 19.45  |                                    |                     |
| 86                                                                                    | 120              | 3710          | -                 | 16.25  |                                    |                     |
| 95                                                                                    | 126              | 3480          | -                 | 14.77  |                                    |                     |
| 103                                                                                   | 124              | 3360          | -                 | 13.57  |                                    |                     |
| 121                                                                                   | 85               | 3510          | -                 | 11.56  |                                    |                     |
| 133                                                                                   | 90               | 3300          | -                 | 10.51  |                                    |                     |
| 145                                                                                   | 89               | 3190          | -                 | 9.66   |                                    |                     |
| 175                                                                                   | 58               | 3160          | -                 | 8.00   |                                    |                     |
| 193                                                                                   | 62               | 2960          | -                 | 7.27   |                                    |                     |
| 210                                                                                   | 62               | 2860          | -                 | 6.68   |                                    |                     |
| 250                                                                                   | 41               | 2890          | -                 | 5.60   |                                    |                     |
| 275                                                                                   | 43               | 2740          | -                 | 5.09   |                                    |                     |
| 299                                                                                   | 43               | 2640          | -                 | 4.68   |                                    |                     |

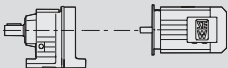
| WA39, $n_e=1400 \text{ min}^{-1}$                                                     |                  |               |                   |        | 200 Nm                             |                     |
|---------------------------------------------------------------------------------------|------------------|---------------|-------------------|--------|------------------------------------|---------------------|
| $n_a$<br>$\text{min}^{-1}$                                                            | $M_{amax}$<br>Nm | $F_{Ra}$<br>N | $\Phi_{(R)}$<br>° | i      | DR2S<br>63MS<br>63M<br>71MS<br>71M | DR2S<br>80M<br>80MK |
|  3   |                  |               |                   |        |                                    |                     |
| 6.7                                                                                   | 200              | 6820          | -                 | 210.49 |                                    |                     |
| 8.9                                                                                   | 200              | 6820          | -                 | 157.87 |                                    |                     |
| 9.9                                                                                   | 200              | 6620          | -                 | 141.23 |                                    |                     |
| 11                                                                                    | 200              | 6820          | -                 | 126.29 |                                    |                     |
| 12                                                                                    | 200              | 6820          | -                 | 114.81 |                                    |                     |
| 13                                                                                    | 200              | 6680          | -                 | 105.50 |                                    |                     |
| 14                                                                                    | 186              | 6270          | -                 | 97.24  |                                    |                     |
| 15                                                                                    | 200              | 6280          | -                 | 91.92  |                                    |                     |
| 17                                                                                    | 200              | 5860          | -                 | 84.74  |                                    |                     |
| 18                                                                                    | 200              | 5600          | -                 | 77.03  |                                    |                     |
| 19                                                                                    | 200              | 5680          | -                 | 73.53  |                                    |                     |
| 20                                                                                    | 200              | 5380          | -                 | 70.79  |                                    |                     |
| 21                                                                                    | 200              | 5430          | -                 | 66.85  |                                    |                     |
| 23                                                                                    | 200              | 5220          | -                 | 61.43  |                                    |                     |
| 24                                                                                    | 186              | 4920          | -                 | 58.34  |                                    |                     |
| 26                                                                                    | 186              | 4690          | -                 | 53.04  |                                    |                     |
| 28                                                                                    | 200              | 4490          | -                 | 49.34  |                                    |                     |
| 31                                                                                    | 200              | 4280          | -                 | 44.85  |                                    |                     |
| 34                                                                                    | 200              | 4090          | -                 | 41.22  |                                    |                     |
| 41                                                                                    | 196              | 3590          | -                 | 33.97  |                                    |                     |
| 45                                                                                    | 196              | 3400          | -                 | 30.88  |                                    |                     |
| 49                                                                                    | 196              | 3240          | -                 | 28.38  |                                    |                     |
|  2 |                  |               |                   |        |                                    |                     |
| 59                                                                                    | 200              | 3200          | -                 | 23.68  |                                    |                     |
| 65                                                                                    | 200              | 3030          | -                 | 21.53  |                                    |                     |
| 71                                                                                    | 200              | 2890          | -                 | 19.78  |                                    |                     |
| 88                                                                                    | 170              | 2690          | -                 | 15.89  |                                    |                     |
| 97                                                                                    | 175              | 2480          | -                 | 14.44  |                                    |                     |
| 106                                                                                   | 175              | 2350          | -                 | 13.27  |                                    |                     |
| 128                                                                                   | 125              | 2580          | -                 | 10.94  |                                    |                     |
| 141                                                                                   | 127              | 2430          | -                 | 9.94   |                                    |                     |
| 153                                                                                   | 124              | 2350          | -                 | 9.14   |                                    |                     |
| 184                                                                                   | 88               | 2380          | -                 | 7.61   |                                    |                     |
| 203                                                                                   | 80               | 2380          | -                 | 6.91   |                                    |                     |
| 220                                                                                   | 80               | 2280          | -                 | 6.35   |                                    |                     |
| 248                                                                                   | 66               | 2240          | -                 | 5.65   |                                    |                     |
| 272                                                                                   | 59               | 2250          | -                 | 5.14   |                                    |                     |
| 297                                                                                   | 59               | 2160          | -                 | 4.72   |                                    |                     |

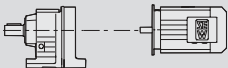
## 3 Selection tables for W..29/W..39 DR2S.. in kW

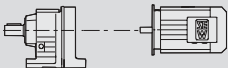
| <b>P<sub>m</sub> = 0.09 kW</b>                  |                                   |          |                                                |                                    |                                                                                    |    |      |       |                       |
|-------------------------------------------------|-----------------------------------|----------|------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------|----|------|-------|-----------------------|
| <b>n<sub>a</sub></b><br><b>min<sup>-1</sup></b> | <b>M<sub>a</sub></b><br><b>Nm</b> | <b>i</b> | <b>F<sub>Ra</sub><sup>1)</sup></b><br><b>N</b> | <b>SEW</b><br><b>f<sub>B</sub></b> |  |    |      |       | <b>m</b><br><b>kg</b> |
| 4.9                                             | 159                               | 188.47   | 5000                                           | 0.80                               | WA                                                                                 | 29 | DR2S | 63MQ6 | 9.8                   |
| 6.2                                             | 128                               | 149.43   | 5000                                           | 1.00                               | WAF                                                                                | 29 | DR2S | 63MQ6 | 10                    |
| 7.0                                             | 110                               | 131.50   | 5000                                           | 1.15                               | WF                                                                                 | 29 | DR2S | 63MQ6 | 10                    |

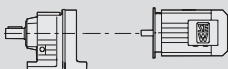
  

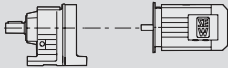
| <b>P<sub>m</sub> = 0.12 kW</b>                  |                                   |          |                                                |                                    |                                                                                    |    |      |        |                       |
|-------------------------------------------------|-----------------------------------|----------|------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------|----|------|--------|-----------------------|
| <b>n<sub>a</sub></b><br><b>min<sup>-1</sup></b> | <b>M<sub>a</sub></b><br><b>Nm</b> | <b>i</b> | <b>F<sub>Ra</sub><sup>1)</sup></b><br><b>N</b> | <b>SEW</b><br><b>f<sub>B</sub></b> |  |    |      |        | <b>m</b><br><b>kg</b> |
| 4.1                                             | 245                               | 210.49   | 6280                                           | 0.80                               | WA<br>WAF<br>WF                                                                    | 39 | DR2S | 63MR6  | 12                    |
| 5.5                                             | 195                               | 157.87   | 6870                                           | 1.00                               |                                                                                    |    | DR2S | 63MR6  | 13                    |
| 6.2                                             | 167                               | 141.23   | 7010                                           | 1.20                               |                                                                                    |    | DR2S | 63MR6  | 13                    |
| 6.9                                             | 156                               | 126.29   | 7300                                           | 1.30                               |                                                                                    |    | DR2S | 63MR6  | 13                    |
| 7.6                                             | 143                               | 114.81   | 7440                                           | 1.40                               |                                                                                    |    | DR2S | 63MR6  | 13                    |
| 8.2                                             | 132                               | 105.50   | 7560                                           | 1.50                               | WA<br>WAF<br>WF                                                                    | 39 | DR2S | 63MSR4 | 11                    |
| 6.6                                             | 160                               | 210.49   | 7260                                           | 1.25                               |                                                                                    |    | DR2S | 63MSR4 | 12                    |
| 8.7                                             | 124                               | 157.87   | 7650                                           | 1.60                               |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 9.8                                             | 107                               | 141.23   | 7730                                           | 1.85                               |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 11                                              | 99                                | 126.29   | 7920                                           | 2.0                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 12                                              | 91                                | 114.81   | 8000                                           | 2.2                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 13                                              | 84                                | 105.50   | 7990                                           | 2.4                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 14                                              | 73                                | 97.24    | 7740                                           | 2.5                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 15                                              | 72                                | 91.92    | 7720                                           | 2.8                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 16                                              | 66                                | 84.74    | 7490                                           | 3.0                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 18                                              | 61                                | 77.03    | 7300                                           | 3.3                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 19                                              | 57                                | 73.53    | 7270                                           | 3.5                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 19                                              | 56                                | 70.79    | 7130                                           | 3.5                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 21                                              | 53                                | 66.85    | 7070                                           | 3.8                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 22                                              | 49                                | 61.43    | 6910                                           | 4.1                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 24                                              | 45                                | 58.34    | 6740                                           | 4.1                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 26                                              | 42                                | 53.04    | 6550                                           | 4.4                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 28                                              | 38                                | 49.34    | 6460                                           | 5.2                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 31                                              | 35                                | 44.85    | 6280                                           | 5.6                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 33                                              | 32                                | 41.22    | 6120                                           | 6.1                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 41                                              | 26                                | 33.97    | 5770                                           | 7.3                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 45                                              | 24                                | 30.88    | 5610                                           | 8.0                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 49                                              | 22                                | 28.38    | 5470                                           | 8.6                                |                                                                                    |    | DR2S | 63MSR4 | 13                    |
| 7.3                                             | 143                               | 188.47   | 5000                                           | 0.90                               | WA<br>WAF<br>WF                                                                    | 29 | DR2S | 63MSR4 | 9.0                   |
| 9.2                                             | 116                               | 149.43   | 5000                                           | 1.10                               |                                                                                    |    | DR2S | 63MSR4 | 9.2                   |
| 10                                              | 100                               | 131.50   | 5000                                           | 1.30                               |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 12                                              | 93                                | 119.55   | 5000                                           | 1.40                               |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 13                                              | 86                                | 108.68   | 5000                                           | 1.50                               |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 14                                              | 79                                | 99.87    | 5000                                           | 1.65                               |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 15                                              | 71                                | 93.58    | 5000                                           | 1.80                               |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 17                                              | 65                                | 83.41    | 5000                                           | 2.0                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 18                                              | 60                                | 78.02    | 5000                                           | 2.1                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 19                                              | 57                                | 74.19    | 5000                                           | 2.3                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 20                                              | 55                                | 69.68    | 5000                                           | 2.4                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 22                                              | 48                                | 62.41    | 5000                                           | 2.7                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 24                                              | 45                                | 56.74    | 5000                                           | 2.9                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 26                                              | 41                                | 52.14    | 5000                                           | 3.1                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 28                                              | 39                                | 49.58    | 5000                                           | 3.3                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 32                                              | 34                                | 43.54    | 5000                                           | 3.8                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 36                                              | 30                                | 38.73*   | 5000                                           | 4.3                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 38                                              | 28                                | 36.38    | 5000                                           | 4.5                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 45                                              | 24                                | 30.99*   | 5000                                           | 5.4                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 49                                              | 22                                | 28.17    | 5000                                           | 5.8                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |
| 53                                              | 20                                | 25.89    | 5000                                           | 6.3                                |                                                                                    |    | DR2S | 63MSR4 | 9.6                   |

| <b>P<sub>m</sub> = 0.18 kW</b>                  |                                   |          |                                                |                                    |  |  |  |  |  |                       |  |
|-------------------------------------------------|-----------------------------------|----------|------------------------------------------------|------------------------------------|--|------------------------------------------------------------------------------------|--|--|--|-----------------------|--|
| <b>n<sub>a</sub></b><br><b>min<sup>-1</sup></b> | <b>M<sub>a</sub></b><br><b>Nm</b> | <b>i</b> | <b>F<sub>Ra</sub><sup>1)</sup></b><br><b>N</b> | <b>SEW</b><br><b>f<sub>B</sub></b> |  |                                                                                    |  |  |  | <b>m</b><br><b>kg</b> |  |
| 6.3                                             | 245                               | 210.49   | 6290                                           | 0.80                               |  |                                                                                    |  |  |  |                       |  |
| 8.4                                             | 193                               | 157.87   | 6890                                           | 1.05                               |  |                                                                                    |  |  |  |                       |  |
| 9.4                                             | 166                               | 141.23   | 7020                                           | 1.20                               |  |                                                                                    |  |  |  |                       |  |
| 11                                              | 154                               | 126.29   | 7320                                           | 1.30                               |  |                                                                                    |  |  |  |                       |  |
| 12                                              | 141                               | 114.81   | 7460                                           | 1.40                               |  |                                                                                    |  |  |  |                       |  |
| 13                                              | 131                               | 105.50   | 7580                                           | 1.55                               |  |                                                                                    |  |  |  |                       |  |
| 14                                              | 114                               | 97.24    | 7320                                           | 1.60                               |  |                                                                                    |  |  |  |                       |  |
| 14                                              | 112                               | 91.92    | 7380                                           | 1.75                               |  |                                                                                    |  |  |  |                       |  |
| 16                                              | 103                               | 84.74    | 7150                                           | 1.95                               |  |                                                                                    |  |  |  |                       |  |
| 17                                              | 95                                | 77.03    | 6990                                           | 2.1                                |  |                                                                                    |  |  |  |                       |  |
| 18                                              | 89                                | 73.53    | 7020                                           | 2.2                                |  |                                                                                    |  |  |  |                       |  |
| 19                                              | 87                                | 70.79    | 6850                                           | 2.3                                |  |                                                                                    |  |  |  |                       |  |
| 20                                              | 82                                | 66.85    | 6850                                           | 2.4                                |  |                                                                                    |  |  |  |                       |  |
| 22                                              | 76                                | 61.43    | 6700                                           | 2.6                                |  |                                                                                    |  |  |  |                       |  |
| 23                                              | 71                                | 58.34    | 6500                                           | 2.6                                |  |                                                                                    |  |  |  |                       |  |
| 25                                              | 65                                | 53.04    | 6340                                           | 2.8                                |  |                                                                                    |  |  |  |                       |  |
| 27                                              | 60                                | 49.34    | 6280                                           | 3.3                                |  |                                                                                    |  |  |  |                       |  |
| 30                                              | 55                                | 44.85    | 6120                                           | 3.6                                |  |                                                                                    |  |  |  |                       |  |
| 32                                              | 51                                | 41.22    | 5980                                           | 3.9                                |  |                                                                                    |  |  |  |                       |  |
| 39                                              | 41                                | 33.97    | 5660                                           | 4.7                                |  |                                                                                    |  |  |  |                       |  |
| 43                                              | 38                                | 30.88    | 5510                                           | 5.1                                |  |                                                                                    |  |  |  |                       |  |
| 47                                              | 35                                | 28.38    | 5380                                           | 5.6                                |  |                                                                                    |  |  |  |                       |  |
| 10                                              | 155                               | 131.50   | 5000                                           | 0.85                               |  |                                                                                    |  |  |  |                       |  |
| 11                                              | 145                               | 119.55   | 5000                                           | 0.90                               |  |                                                                                    |  |  |  |                       |  |
| 12                                              | 134                               | 108.68   | 5000                                           | 0.95                               |  |                                                                                    |  |  |  |                       |  |
| 13                                              | 123                               | 99.87    | 5000                                           | 1.05                               |  |                                                                                    |  |  |  |                       |  |
| 14                                              | 110                               | 93.58    | 5000                                           | 1.15                               |  |                                                                                    |  |  |  |                       |  |
| 16                                              | 101                               | 83.41    | 5000                                           | 1.30                               |  |                                                                                    |  |  |  |                       |  |
| 17                                              | 94                                | 78.02    | 5000                                           | 1.40                               |  |                                                                                    |  |  |  |                       |  |
| 18                                              | 89                                | 74.19    | 5000                                           | 1.45                               |  |                                                                                    |  |  |  |                       |  |
| 19                                              | 86                                | 69.68    | 5000                                           | 1.50                               |  |                                                                                    |  |  |  |                       |  |
| 21                                              | 75                                | 62.41    | 5000                                           | 1.70                               |  |                                                                                    |  |  |  |                       |  |
| 23                                              | 69                                | 56.74    | 5000                                           | 1.85                               |  |                                                                                    |  |  |  |                       |  |
| 26                                              | 64                                | 52.14    | 5000                                           | 2.0                                |  |                                                                                    |  |  |  |                       |  |
| 27                                              | 61                                | 49.58    | 5000                                           | 2.1                                |  |                                                                                    |  |  |  |                       |  |
| 31                                              | 52                                | 43.54    | 5000                                           | 2.5                                |  |                                                                                    |  |  |  |                       |  |
| 34                                              | 46                                | 38.73*   | 5000                                           | 2.8                                |  |                                                                                    |  |  |  |                       |  |
| 37                                              | 44                                | 36.38    | 5000                                           | 2.9                                |  |                                                                                    |  |  |  |                       |  |
| 43                                              | 37                                | 30.99*   | 5000                                           | 3.5                                |  |                                                                                    |  |  |  |                       |  |
| 47                                              | 34                                | 28.17    | 5000                                           | 3.7                                |  |                                                                                    |  |  |  |                       |  |
| 51                                              | 32                                | 25.89    | 5000                                           | 4.1                                |  |                                                                                    |  |  |  |                       |  |
| 57                                              | 28                                | 23.29    | 5000                                           | 4.6                                |  |                                                                                    |  |  |  |                       |  |
| 63                                              | 26                                | 21.17    | 5000                                           | 5.0                                |  |                                                                                    |  |  |  |                       |  |
| 68                                              | 24                                | 19.45    | 5000                                           | 5.4                                |  |                                                                                    |  |  |  |                       |  |
| 82                                              | 19                                | 16.25    | 5000                                           | 6.1                                |  |                                                                                    |  |  |  |                       |  |
| 90                                              | 18                                | 14.77    | 4870                                           | 6.9                                |  |                                                                                    |  |  |  |                       |  |
| 98                                              | 16                                | 13.57    | 4740                                           | 7.4                                |  |                                                                                    |  |  |  |                       |  |
| 115                                             | 14                                | 11.56*   | 4500                                           | 6.0                                |  |                                                                                    |  |  |  |                       |  |
| 127                                             | 12                                | 10.51    | 4370                                           | 6.9                                |  |                                                                                    |  |  |  |                       |  |
| 138                                             | 11                                | 9.66     | 4260                                           | 7.5                                |  |                                                                                    |  |  |  |                       |  |
| 166                                             | 9.0                               | 8.00     | 3990                                           | 6.0                                |  |                                                                                    |  |  |  |                       |  |
| 183                                             | 8.0                               | 7.27     | 3870                                           | 6.9                                |  |                                                                                    |  |  |  |                       |  |
| 199                                             | 8.0                               | 6.68     | 3770                                           | 7.5                                |  |                                                                                    |  |  |  |                       |  |
| 238                                             | 6.0                               | 5.60     | 3560                                           | 6.0                                |  |                                                                                    |  |  |  |                       |  |
| 261                                             | 6.0                               | 5.09     | 3450                                           | 6.8                                |  |                                                                                    |  |  |  |                       |  |
| 284                                             | 5.0                               | 4.68     | 3360                                           | 7.4                                |  |                                                                                    |  |  |  |                       |  |

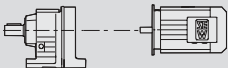
| <b>P<sub>m</sub> = 0.25 kW</b>                  |                                   |          |                                                |                                    |                                      |                                     |                                           |                                           |  | <b>m</b><br><b>kg</b> |
|-------------------------------------------------|-----------------------------------|----------|------------------------------------------------|------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------|-----------------------|
| <b>n<sub>a</sub></b><br><b>min<sup>-1</sup></b> | <b>M<sub>a</sub></b><br><b>Nm</b> | <b>i</b> | <b>F<sub>Ra</sub><sup>1)</sup></b><br><b>N</b> | <b>SEW</b><br><b>f<sub>B</sub></b> |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 9.4                                             | 230                               | 141.23   | 6240                                           | 0.85                               | <b>WA</b><br><b>WAF</b><br><b>WF</b> | <b>39</b><br><b>39</b><br><b>39</b> | <b>DR2S</b><br><b>DR2S</b><br><b>DR2S</b> | <b>63M4</b><br><b>63M4</b><br><b>63M4</b> |                                                                                    |                       |
| 11                                              | 210                               | 126.29   | 6660                                           | 0.95                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 12                                              | 197                               | 114.81   | 6850                                           | 1.00                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 13                                              | 182                               | 105.50   | 7020                                           | 1.10                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 14                                              | 159                               | 97.24    | 6760                                           | 1.15                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 14                                              | 156                               | 91.92    | 6900                                           | 1.30                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 16                                              | 143                               | 84.74    | 6670                                           | 1.40                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 17                                              | 132                               | 77.03    | 6540                                           | 1.50                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 18                                              | 124                               | 73.53    | 6630                                           | 1.60                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 19                                              | 122                               | 70.79    | 6440                                           | 1.65                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 20                                              | 114                               | 66.85    | 6490                                           | 1.75                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 22                                              | 106                               | 61.43    | 6370                                           | 1.90                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 23                                              | 99                                | 58.34    | 6150                                           | 1.90                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 25                                              | 91                                | 53.04    | 6020                                           | 2.0                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 27                                              | 83                                | 49.34    | 6000                                           | 2.4                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 30                                              | 77                                | 44.85    | 5860                                           | 2.6                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 32                                              | 71                                | 41.22    | 5750                                           | 2.8                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 39                                              | 57                                | 33.97    | 5450                                           | 3.4                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 43                                              | 53                                | 30.88    | 5320                                           | 3.7                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 47                                              | 48                                | 28.38    | 5200                                           | 4.0                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 56                                              | 40                                | 23.68*   | 5040                                           | 5.0                                | <b>WA</b><br><b>WAF</b><br><b>WF</b> | <b>39</b><br><b>39</b><br><b>39</b> | <b>DR2S</b><br><b>DR2S</b><br><b>DR2S</b> | <b>63M4</b><br><b>63M4</b><br><b>63M4</b> |                                                                                    |                       |
| 62                                              | 36                                | 21.53    | 4910                                           | 5.4                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 67                                              | 34                                | 19.78    | 4790                                           | 5.9                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 84                                              | 26                                | 15.89    | 4480                                           | 6.3                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 92                                              | 24                                | 14.44    | 4360                                           | 7.1                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 100                                             | 22                                | 13.27    | 4250                                           | 7.6                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 122                                             | 18                                | 10.94    | 4000                                           | 6.7                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 134                                             | 17                                | 9.94     | 3890                                           | 7.4                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 146                                             | 15                                | 9.14     | 3790                                           | 7.9                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 175                                             | 12                                | 7.61     | 3560                                           | 6.8                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 192                                             | 11                                | 6.91     | 3460                                           | 6.7                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 209                                             | 10                                | 6.35     | 3370                                           | 7.3                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 235                                             | 9.0                               | 5.65     | 3240                                           | 6.9                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 259                                             | 8.0                               | 5.14     | 3150                                           | 6.7                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 282                                             | 8.0                               | 4.72     | 3070                                           | 7.2                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 14                                              | 153                               | 93.58    | 5000                                           | 0.85                               | <b>WA</b><br><b>WAF</b><br><b>WF</b> | <b>29</b><br><b>29</b><br><b>29</b> | <b>DR2S</b><br><b>DR2S</b><br><b>DR2S</b> | <b>63M4</b><br><b>63M4</b><br><b>63M4</b> |                                                                                    |                       |
| 16                                              | 140                               | 83.41    | 5000                                           | 0.90                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 17                                              | 130                               | 78.02    | 5000                                           | 1.00                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 18                                              | 124                               | 74.19    | 5000                                           | 1.05                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 19                                              | 119                               | 69.68    | 5000                                           | 1.10                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 21                                              | 105                               | 62.41    | 5000                                           | 1.25                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 23                                              | 97                                | 56.74    | 5000                                           | 1.35                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 26                                              | 89                                | 52.14    | 5000                                           | 1.45                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 27                                              | 85                                | 49.58    | 5000                                           | 1.55                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 31                                              | 73                                | 43.54    | 5000                                           | 1.75                               |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 34                                              | 64                                | 38.73*   | 5000                                           | 2.0                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 37                                              | 62                                | 36.38    | 5000                                           | 2.1                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 43                                              | 52                                | 30.99*   | 5000                                           | 2.5                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 47                                              | 48                                | 28.17    | 5000                                           | 2.7                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 51                                              | 44                                | 25.89    | 5000                                           | 2.9                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 57                                              | 39                                | 23.29    | 5000                                           | 3.3                                | <b>WA</b><br><b>WAF</b><br><b>WF</b> | <b>29</b><br><b>29</b><br><b>29</b> | <b>DR2S</b><br><b>DR2S</b><br><b>DR2S</b> | <b>63M4</b><br><b>63M4</b><br><b>63M4</b> |                                                                                    |                       |
| 63                                              | 36                                | 21.17    | 5000                                           | 3.6                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 68                                              | 33                                | 19.45    | 5000                                           | 3.9                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 82                                              | 27                                | 16.25    | 4920                                           | 4.4                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 90                                              | 25                                | 14.77    | 4780                                           | 5.0                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 98                                              | 23                                | 13.57    | 4660                                           | 5.3                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 115                                             | 19                                | 11.56*   | 4430                                           | 4.3                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 127                                             | 18                                | 10.51    | 4310                                           | 5.0                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 138                                             | 16                                | 9.66     | 4200                                           | 5.4                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 166                                             | 13                                | 8.00     | 3930                                           | 4.3                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 183                                             | 12                                | 7.27     | 3820                                           | 5.0                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 199                                             | 11                                | 6.68     | 3720                                           | 5.4                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 238                                             | 9.0                               | 5.60     | 3510                                           | 4.3                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 261                                             | 8.0                               | 5.09     | 3410                                           | 4.9                                |                                      |                                     |                                           |                                           |                                                                                    |                       |
| 284                                             | 8.0                               | 4.68     | 3320                                           | 5.4                                |                                      |                                     |                                           |                                           |                                                                                    |                       |

| <b>P<sub>m</sub> = 0.37 kW</b>                  |                                   |          |                                                |                                    |     |  |      |                       |    |
|-------------------------------------------------|-----------------------------------|----------|------------------------------------------------|------------------------------------|-----|------------------------------------------------------------------------------------|------|-----------------------|----|
| <b>n<sub>a</sub></b><br><b>min<sup>-1</sup></b> | <b>M<sub>a</sub></b><br><b>Nm</b> | <b>i</b> | <b>F<sub>Ra</sub><sup>1)</sup></b><br><b>N</b> | <b>SEW</b><br><b>f<sub>B</sub></b> |     |                                                                                    |      | <b>m</b><br><b>kg</b> |    |
| 14                                              | 230                               | 97.24    | 5780                                           | 0.80                               |     |                                                                                    |      |                       |    |
| 15                                              | 225                               | 91.92    | 6080                                           | 0.90                               |     |                                                                                    |      |                       |    |
| 16                                              | 205                               | 84.74    | 5840                                           | 0.95                               |     |                                                                                    |      |                       |    |
| 18                                              | 192                               | 77.03    | 5780                                           | 1.05                               |     |                                                                                    |      |                       |    |
| 18                                              | 182                               | 73.53    | 5970                                           | 1.10                               |     |                                                                                    |      |                       |    |
| 19                                              | 178                               | 70.79    | 5730                                           | 1.10                               |     |                                                                                    |      |                       |    |
| 20                                              | 167                               | 66.85    | 5880                                           | 1.20                               |     |                                                                                    |      |                       |    |
| 22                                              | 154                               | 61.43    | 5800                                           | 1.30                               | WA  | 39                                                                                 | DR2S | 71MS4                 | 12 |
| 23                                              | 144                               | 58.34    | 5540                                           | 1.30                               | WAF | 39                                                                                 | DR2S | 71MS4                 | 13 |
| 25                                              | 132                               | 53.04    | 5450                                           | 1.40                               | WF  | 39                                                                                 | DR2S | 71MS4                 | 14 |
| 27                                              | 122                               | 49.34    | 5510                                           | 1.65                               |     |                                                                                    |      |                       |    |
| 30                                              | 112                               | 44.85    | 5410                                           | 1.80                               |     |                                                                                    |      |                       |    |
| 33                                              | 103                               | 41.22    | 5320                                           | 1.95                               |     |                                                                                    |      |                       |    |
| 40                                              | 84                                | 33.97    | 5090                                           | 2.3                                |     |                                                                                    |      |                       |    |
| 44                                              | 77                                | 30.88    | 4980                                           | 2.5                                |     |                                                                                    |      |                       |    |
| 48                                              | 71                                | 28.38    | 4890                                           | 2.7                                |     |                                                                                    |      |                       |    |
| 57                                              | 58                                | 23.68*   | 4820                                           | 3.4                                |     |                                                                                    |      |                       |    |
| 63                                              | 53                                | 21.53    | 4700                                           | 3.7                                |     |                                                                                    |      |                       |    |
| 68                                              | 49                                | 19.78    | 4590                                           | 4.0                                |     |                                                                                    |      |                       |    |
| 85                                              | 39                                | 15.89    | 4310                                           | 4.3                                |     |                                                                                    |      |                       |    |
| 93                                              | 36                                | 14.44    | 4200                                           | 4.8                                |     |                                                                                    |      |                       |    |
| 102                                             | 33                                | 13.27    | 4100                                           | 5.2                                |     |                                                                                    |      |                       |    |
| 123                                             | 27                                | 10.94    | 3880                                           | 4.6                                | WA  | 39                                                                                 | DR2S | 71MS4                 | 12 |
| 136                                             | 24                                | 9.94     | 3770                                           | 5.1                                | WAF | 39                                                                                 | DR2S | 71MS4                 | 12 |
| 148                                             | 23                                | 9.14     | 3680                                           | 5.4                                | WF  | 39                                                                                 | DR2S | 71MS4                 | 13 |
| 178                                             | 18                                | 7.61     | 3460                                           | 4.7                                |     |                                                                                    |      |                       |    |
| 195                                             | 17                                | 6.91     | 3360                                           | 4.6                                |     |                                                                                    |      |                       |    |
| 212                                             | 16                                | 6.35     | 3280                                           | 5.0                                |     |                                                                                    |      |                       |    |
| 239                                             | 14                                | 5.65     | 3150                                           | 4.7                                |     |                                                                                    |      |                       |    |
| 263                                             | 12                                | 5.14     | 3060                                           | 4.6                                |     |                                                                                    |      |                       |    |
| 286                                             | 11                                | 4.72     | 2990                                           | 5.0                                |     |                                                                                    |      |                       |    |
| 22                                              | 153                               | 62.41    | 5000                                           | 0.85                               |     |                                                                                    |      |                       |    |
| 24                                              | 141                               | 56.74    | 5000                                           | 0.90                               |     |                                                                                    |      |                       |    |
| 26                                              | 130                               | 52.14    | 5000                                           | 1.00                               |     |                                                                                    |      |                       |    |
| 27                                              | 124                               | 49.58    | 5000                                           | 1.05                               |     |                                                                                    |      |                       |    |
| 31                                              | 107                               | 43.54    | 5000                                           | 1.20                               | WA  | 29                                                                                 | DR2S | 71MS4                 | 10 |
| 35                                              | 94                                | 38.73*   | 5000                                           | 1.35                               | WAF | 29                                                                                 | DR2S | 71MS4                 | 11 |
| 37                                              | 91                                | 36.38    | 5000                                           | 1.45                               | WF  | 29                                                                                 | DR2S | 71MS4                 | 11 |
| 44                                              | 76                                | 30.99*   | 5000                                           | 1.70                               |     |                                                                                    |      |                       |    |
| 48                                              | 70                                | 28.17    | 5000                                           | 1.85                               |     |                                                                                    |      |                       |    |
| 52                                              | 64                                | 25.89    | 5000                                           | 2.0                                |     |                                                                                    |      |                       |    |
| 58                                              | 57                                | 23.29    | 5000                                           | 2.3                                |     |                                                                                    |      |                       |    |
| 64                                              | 52                                | 21.17    | 5000                                           | 2.5                                |     |                                                                                    |      |                       |    |
| 69                                              | 48                                | 19.45    | 4990                                           | 2.7                                |     |                                                                                    |      |                       |    |
| 83                                              | 40                                | 16.25    | 4740                                           | 3.0                                |     |                                                                                    |      |                       |    |
| 91                                              | 36                                | 14.77    | 4620                                           | 3.4                                |     |                                                                                    |      |                       |    |
| 99                                              | 33                                | 13.57    | 4510                                           | 3.6                                |     |                                                                                    |      |                       |    |
| 117                                             | 28                                | 11.56*   | 4300                                           | 3.0                                | WA  | 29                                                                                 | DR2S | 71MS4                 | 10 |
| 128                                             | 26                                | 10.51    | 4180                                           | 3.4                                | WAF | 29                                                                                 | DR2S | 71MS4                 | 10 |
| 140                                             | 24                                | 9.66     | 4080                                           | 3.7                                | WF  | 29                                                                                 | DR2S | 71MS4                 | 11 |
| 169                                             | 19                                | 8.00     | 3810                                           | 2.9                                |     |                                                                                    |      |                       |    |
| 186                                             | 18                                | 7.27     | 3710                                           | 3.4                                |     |                                                                                    |      |                       |    |
| 202                                             | 16                                | 6.68     | 3620                                           | 3.7                                |     |                                                                                    |      |                       |    |
| 241                                             | 13                                | 5.60     | 3420                                           | 3.0                                |     |                                                                                    |      |                       |    |
| 265                                             | 12                                | 5.09     | 3320                                           | 3.4                                |     |                                                                                    |      |                       |    |
| 289                                             | 11                                | 4.68     | 3240                                           | 3.7                                |     |                                                                                    |      |                       |    |

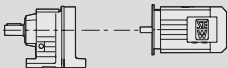
| P <sub>m</sub> = 0.55 kW            |                      |        |                                    |                       |                                                                                    |    |                      |                      |                |
|-------------------------------------|----------------------|--------|------------------------------------|-----------------------|------------------------------------------------------------------------------------|----|----------------------|----------------------|----------------|
| n <sub>a</sub><br>min <sup>-1</sup> | M <sub>a</sub><br>Nm | i      | F <sub>Ra</sub> <sup>1)</sup><br>N | SEW<br>f <sub>B</sub> |  |    |                      |                      | m<br>kg        |
| 20                                  | 245                  | 66.85  | 4990                               | 0.80                  | WA<br>WAF<br>WF                                                                    | 39 | DR2S<br>DR2S<br>DR2S | 71M4<br>71M4<br>71M4 | 14<br>14<br>15 |
| 22                                  | 225                  | 61.43  | 4980                               | 0.90                  |                                                                                    |    |                      |                      |                |
| 23                                  | 210                  | 58.34  | 4650                               | 0.85                  |                                                                                    |    |                      |                      |                |
| 26                                  | 196                  | 53.04  | 4640                               | 0.95                  |                                                                                    |    |                      |                      |                |
| 28                                  | 180                  | 49.34  | 4800                               | 1.10                  |                                                                                    |    |                      |                      |                |
| 30                                  | 165                  | 44.85  | 4750                               | 1.20                  |                                                                                    |    |                      |                      |                |
| 33                                  | 153                  | 41.22  | 4720                               | 1.30                  |                                                                                    |    |                      |                      |                |
| 40                                  | 124                  | 33.97  | 4560                               | 1.60                  |                                                                                    |    |                      |                      |                |
| 44                                  | 114                  | 30.88  | 4500                               | 1.70                  |                                                                                    |    |                      |                      |                |
| 48                                  | 105                  | 28.38  | 4440                               | 1.85                  |                                                                                    |    |                      |                      |                |
| 57                                  | 86                   | 23.68* | 4500                               | 2.3                   | WA<br>WAF<br>WF                                                                    | 39 | DR2S<br>DR2S<br>DR2S | 71M4<br>71M4<br>71M4 | 13<br>14<br>14 |
| 63                                  | 79                   | 21.53  | 4400                               | 2.5                   |                                                                                    |    |                      |                      |                |
| 69                                  | 73                   | 19.78  | 4320                               | 2.7                   |                                                                                    |    |                      |                      |                |
| 86                                  | 58                   | 15.89  | 4070                               | 2.9                   |                                                                                    |    |                      |                      |                |
| 94                                  | 53                   | 14.44  | 3980                               | 3.3                   |                                                                                    |    |                      |                      |                |
| 102                                 | 49                   | 13.27  | 3900                               | 3.5                   |                                                                                    |    |                      |                      |                |
| 124                                 | 39                   | 10.94  | 3700                               | 3.1                   |                                                                                    |    |                      |                      |                |
| 137                                 | 36                   | 9.94   | 3610                               | 3.5                   |                                                                                    |    |                      |                      |                |
| 149                                 | 33                   | 9.14   | 3530                               | 3.6                   |                                                                                    |    |                      |                      |                |
| 179                                 | 27                   | 7.61   | 3310                               | 3.2                   |                                                                                    |    |                      |                      |                |
| 197                                 | 25                   | 6.91   | 3230                               | 3.1                   |                                                                                    |    |                      |                      |                |
| 214                                 | 23                   | 6.35   | 3160                               | 3.4                   |                                                                                    |    |                      |                      |                |
| 241                                 | 20                   | 5.65   | 3030                               | 3.2                   |                                                                                    |    |                      |                      |                |
| 265                                 | 18                   | 5.14   | 2950                               | 3.1                   |                                                                                    |    |                      |                      |                |
| 288                                 | 17                   | 4.72   | 2890                               | 3.4                   |                                                                                    |    |                      |                      |                |
| 31                                  | 158                  | 43.54  | 5000                               | 0.80                  | WA<br>WAF<br>WF                                                                    | 29 | DR2S<br>DR2S<br>DR2S | 71M4<br>71M4<br>71M4 | 12<br>12<br>12 |
| 35                                  | 139                  | 38.73* | 5000                               | 0.95                  |                                                                                    |    |                      |                      |                |
| 37                                  | 134                  | 36.38  | 5000                               | 0.95                  |                                                                                    |    |                      |                      |                |
| 44                                  | 112                  | 30.99* | 5000                               | 1.15                  |                                                                                    |    |                      |                      |                |
| 48                                  | 103                  | 28.17  | 4920                               | 1.25                  |                                                                                    |    |                      |                      |                |
| 53                                  | 95                   | 25.89  | 4850                               | 1.35                  |                                                                                    |    |                      |                      |                |
| 58                                  | 84                   | 23.29  | 4910                               | 1.55                  | WA<br>WAF<br>WF                                                                    | 29 | DR2S<br>DR2S<br>DR2S | 71M4<br>71M4<br>71M4 | 11<br>12<br>12 |
| 64                                  | 78                   | 21.17  | 4800                               | 1.65                  |                                                                                    |    |                      |                      |                |
| 70                                  | 71                   | 19.45  | 4720                               | 1.80                  |                                                                                    |    |                      |                      |                |
| 84                                  | 59                   | 16.25  | 4500                               | 2.0                   |                                                                                    |    |                      |                      |                |
| 92                                  | 54                   | 14.77  | 4390                               | 2.3                   |                                                                                    |    |                      |                      |                |
| 100                                 | 50                   | 13.57  | 4300                               | 2.5                   |                                                                                    |    |                      |                      |                |
| 118                                 | 42                   | 11.56* | 4110                               | 2.0                   |                                                                                    |    |                      |                      |                |
| 129                                 | 38                   | 10.51  | 4000                               | 2.3                   |                                                                                    |    |                      |                      |                |
| 141                                 | 35                   | 9.66   | 3920                               | 2.5                   |                                                                                    |    |                      |                      |                |
| 170                                 | 29                   | 8.00   | 3650                               | 2.0                   |                                                                                    |    |                      |                      |                |
| 187                                 | 26                   | 7.27   | 3560                               | 2.3                   |                                                                                    |    |                      |                      |                |
| 204                                 | 24                   | 6.68   | 3480                               | 2.5                   |                                                                                    |    |                      |                      |                |
| 243                                 | 20                   | 5.60   | 3290                               | 2.0                   |                                                                                    |    |                      |                      |                |
| 267                                 | 18                   | 5.09   | 3200                               | 2.3                   |                                                                                    |    |                      |                      |                |
| 291                                 | 17                   | 4.68   | 3130                               | 2.5                   |                                                                                    |    |                      |                      |                |

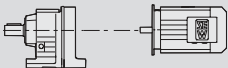
| P <sub>m</sub> = 0.75 kW            |                      |       |                                    |                       |                                                                                      |    |                      |                         |                |
|-------------------------------------|----------------------|-------|------------------------------------|-----------------------|--------------------------------------------------------------------------------------|----|----------------------|-------------------------|----------------|
| n <sub>a</sub><br>min <sup>-1</sup> | M <sub>a</sub><br>Nm | i     | F <sub>Ra</sub> <sup>1)</sup><br>N | SEW<br>f <sub>B</sub> |  |    |                      |                         | m<br>kg        |
| 29                                  | 235                  | 49.34 | 4030                               | 0.85                  | WA<br>WAF<br>WF                                                                      | 39 | DR2S<br>DR2S<br>DR2S | 80MK4<br>80MK4<br>80MK4 | 16<br>17<br>18 |
| 31                                  | 215                  | 44.85 | 4050                               | 0.90                  |                                                                                      |    |                      |                         |                |
| 34                                  | 200                  | 41.22 | 4060                               | 1.00                  |                                                                                      |    |                      |                         |                |
| 42                                  | 163                  | 33.97 | 3990                               | 1.20                  |                                                                                      |    |                      |                         |                |
| 46                                  | 150                  | 30.88 | 3970                               | 1.30                  |                                                                                      |    |                      |                         |                |
| 50                                  | 138                  | 28.38 | 3950                               | 1.40                  |                                                                                      |    |                      |                         |                |

**P<sub>m</sub> = 0.75 kW**

| $n_a$<br>min <sup>-1</sup> | $M_a$<br>Nm | $i$    | $F_{Ra}^{1)}$<br>N | SEW<br>$f_B$ |  |    |      |       | m<br>kg |
|----------------------------|-------------|--------|--------------------|--------------|------------------------------------------------------------------------------------|----|------|-------|---------|
| 60                         | 113         | 23.68* | 4130               | 1.75         |                                                                                    |    |      |       |         |
| 66                         | 104         | 21.53  | 4060               | 1.90         |                                                                                    |    |      |       |         |
| 71                         | 96          | 19.78  | 4010               | 2.1          |                                                                                    |    |      |       |         |
| 89                         | 76          | 15.89  | 3800               | 2.2          |                                                                                    |    |      |       |         |
| 98                         | 70          | 14.44  | 3720               | 2.5          |                                                                                    |    |      |       |         |
| 106                        | 64          | 13.27  | 3660               | 2.7          |                                                                                    |    |      |       |         |
| 129                        | 52          | 10.94  | 3490               | 2.4          | WA                                                                                 | 39 | DR2S | 80MK4 | 15      |
| 142                        | 48          | 9.94   | 3410               | 2.6          | WAF                                                                                | 39 | DR2S | 80MK4 | 16      |
| 154                        | 44          | 9.14   | 3350               | 2.8          | WF                                                                                 | 39 | DR2S | 80MK4 | 17      |
| 185                        | 36          | 7.61   | 3140               | 2.4          |                                                                                    |    |      |       |         |
| 204                        | 33          | 6.91   | 3070               | 2.4          |                                                                                    |    |      |       |         |
| 222                        | 31          | 6.35   | 3000               | 2.6          |                                                                                    |    |      |       |         |
| 249                        | 27          | 5.65   | 2880               | 2.4          |                                                                                    |    |      |       |         |
| 274                        | 24          | 5.14   | 2810               | 2.4          |                                                                                    |    |      |       |         |
| 299                        | 23          | 4.72   | 2760               | 2.6          |                                                                                    |    |      |       |         |
| 46                         | 148         | 30.99* | 4470               | 0.90         | WA                                                                                 | 29 | DR2S | 80MK4 | 14      |
| 50                         | 136         | 28.17  | 4420               | 0.95         | WAF                                                                                | 29 | DR2S | 80MK4 | 14      |
| 54                         | 125         | 25.89  | 4380               | 1.05         | WF                                                                                 | 29 | DR2S | 80MK4 | 15      |
| 61                         | 111         | 23.29  | 4540               | 1.15         |                                                                                    |    |      |       |         |
| 67                         | 102         | 21.17  | 4460               | 1.25         |                                                                                    |    |      |       |         |
| 72                         | 94          | 19.45  | 4390               | 1.35         |                                                                                    |    |      |       |         |
| 87                         | 77          | 16.25  | 4210               | 1.55         |                                                                                    |    |      |       |         |
| 95                         | 71          | 14.77  | 4120               | 1.75         |                                                                                    |    |      |       |         |
| 104                        | 66          | 13.57  | 4050               | 1.90         |                                                                                    |    |      |       |         |
| 122                        | 55          | 11.56* | 3880               | 1.55         | WA                                                                                 | 29 | DR2S | 80MK4 | 14      |
| 134                        | 51          | 10.51  | 3790               | 1.75         | WAF                                                                                | 29 | DR2S | 80MK4 | 14      |
| 146                        | 46          | 9.66   | 3720               | 1.90         | WF                                                                                 | 29 | DR2S | 80MK4 | 14      |
| 176                        | 38          | 8.00   | 3460               | 1.50         |                                                                                    |    |      |       |         |
| 194                        | 35          | 7.27   | 3380               | 1.75         |                                                                                    |    |      |       |         |
| 211                        | 32          | 6.68   | 3310               | 1.90         |                                                                                    |    |      |       |         |
| 252                        | 26          | 5.60   | 3130               | 1.55         |                                                                                    |    |      |       |         |
| 277                        | 24          | 5.09   | 3060               | 1.75         |                                                                                    |    |      |       |         |
| 302                        | 22          | 4.68   | 2990               | 1.90         |                                                                                    |    |      |       |         |
| 345                        | 19          | 8.00   | 2940               | 2.9          |                                                                                    |    |      |       |         |
| 380                        | 18          | 7.27   | 2860               | 3.4          |                                                                                    |    |      |       |         |
| 413                        | 16          | 6.68   | 2800               | 3.7          | WA                                                                                 | 29 | DR2S | 71M2  | 11      |
| 493                        | 13          | 5.60   | 2640               | 3.0          | WAF                                                                                | 29 | DR2S | 71M2  | 12      |
| 542                        | 12          | 5.09   | 2570               | 3.4          | WF                                                                                 | 29 | DR2S | 71M2  | 12      |
| 590                        | 11          | 4.68   | 2510               | 3.7          |                                                                                    |    |      |       |         |

**P<sub>m</sub> = 1.1 kW**

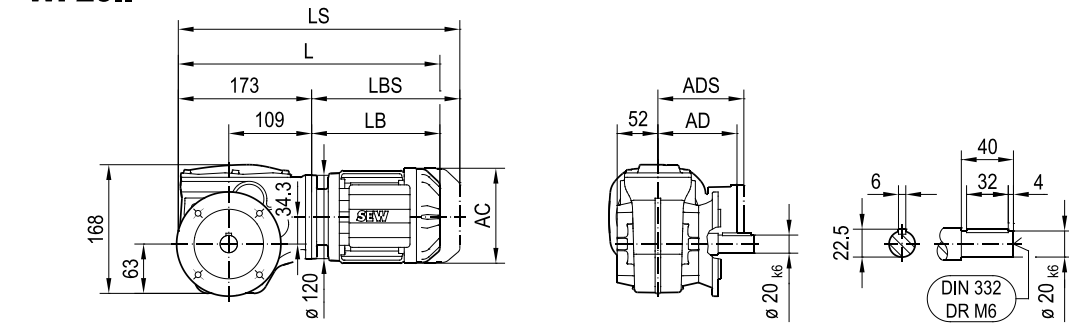
| $n_a$<br>min <sup>-1</sup> | $M_a$<br>Nm | $i$    | $F_{Ra}^{1)}$<br>N | SEW<br>$f_B$ |  |    |      |      | m<br>kg |
|----------------------------|-------------|--------|--------------------|--------------|--------------------------------------------------------------------------------------|----|------|------|---------|
| 42                         | 235         | 33.97  | 3030               | 0.80         | WA                                                                                   | 39 | DR2S | 80M4 | 19      |
| 46                         | 215         | 30.88  | 3080               | 0.90         | WAF                                                                                  | 39 | DR2S | 80M4 | 20      |
| 50                         | 200         | 28.38  | 3130               | 0.95         | WF                                                                                   | 39 | DR2S | 80M4 | 21      |
| 60                         | 166         | 23.68* | 3550               | 1.20         |                                                                                      |    |      |      |         |
| 66                         | 153         | 21.53  | 3530               | 1.30         |                                                                                      |    |      |      |         |
| 72                         | 141         | 19.78  | 3510               | 1.40         |                                                                                      |    |      |      |         |
| 89                         | 111         | 15.89  | 3370               | 1.50         |                                                                                      |    |      |      |         |
| 98                         | 102         | 14.44  | 3330               | 1.70         |                                                                                      |    |      |      |         |
| 107                        | 94          | 13.27  | 3300               | 1.85         |                                                                                      |    |      |      |         |
| 129                        | 76          | 10.94  | 3180               | 1.65         | WA                                                                                   | 39 | DR2S | 80M4 | 18      |
| 142                        | 70          | 9.94   | 3130               | 1.80         | WAF                                                                                  | 39 | DR2S | 80M4 | 19      |
| 155                        | 65          | 9.14   | 3080               | 1.90         | WF                                                                                   | 39 | DR2S | 80M4 | 20      |
| 186                        | 53          | 7.61   | 2880               | 1.65         |                                                                                      |    |      |      |         |
| 205                        | 49          | 6.91   | 2830               | 1.65         |                                                                                      |    |      |      |         |
| 223                        | 45          | 6.35   | 2790               | 1.75         |                                                                                      |    |      |      |         |
| 250                        | 39          | 5.65   | 2670               | 1.65         |                                                                                      |    |      |      |         |
| 275                        | 36          | 5.14   | 2620               | 1.60         |                                                                                      |    |      |      |         |
| 300                        | 33          | 4.72   | 2570               | 1.75         |                                                                                      |    |      |      |         |

| <b>P<sub>m</sub> = 1.1 kW</b>                   |                                   |          |                                                |                                    |                                                                                    |           |             |              |                       |
|-------------------------------------------------|-----------------------------------|----------|------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------|-----------|-------------|--------------|-----------------------|
| <b>n<sub>a</sub></b><br><b>min<sup>-1</sup></b> | <b>M<sub>a</sub></b><br><b>Nm</b> | <b>i</b> | <b>F<sub>Ra</sub><sup>1)</sup></b><br><b>N</b> | <b>SEW</b><br><b>f<sub>B</sub></b> |  |           |             |              | <b>m</b><br><b>kg</b> |
| <b>368</b>                                      | 27                                | 7.61     | 2520                                           | 3.2                                | <b>WA</b>                                                                          | <b>39</b> | <b>DR2S</b> | <b>80MS2</b> | 16                    |
| <b>405</b>                                      | 25                                | 6.91     | 2460                                           | 3.2                                |                                                                                    |           |             |              |                       |
| <b>441</b>                                      | 23                                | 6.35     | 2410                                           | 3.5                                |                                                                                    |           |             |              |                       |
| <b>495</b>                                      | 20                                | 5.65     | 2310                                           | 3.2                                |                                                                                    |           |             |              |                       |
| <b>545</b>                                      | 18                                | 5.14     | 2260                                           | 3.2                                |                                                                                    |           |             |              |                       |
| <b>593</b>                                      | 17                                | 4.72     | 2210                                           | 3.4                                | <b>WAF</b>                                                                         | <b>39</b> | <b>DR2S</b> | <b>80MS2</b> | 16                    |
|                                                 |                                   |          |                                                |                                    | <b>WF</b>                                                                          | <b>39</b> | <b>DR2S</b> | <b>80MS2</b> | 17                    |
| <b>61</b>                                       | 162                               | 23.29    | 3950                                           | 0.80                               | <b>WA</b>                                                                          | <b>29</b> | <b>DR2S</b> | <b>80M4</b>  | 17                    |
| <b>67</b>                                       | 150                               | 21.17    | 3910                                           | 0.85                               |                                                                                    |           |             |              |                       |
| <b>73</b>                                       | 138                               | 19.45    | 3890                                           | 0.95                               |                                                                                    |           |             |              |                       |
| <b>87</b>                                       | 113                               | 16.25    | 3770                                           | 1.05                               |                                                                                    |           |             |              |                       |
| <b>96</b>                                       | 104                               | 14.77    | 3720                                           | 1.20                               |                                                                                    |           |             |              |                       |
| <b>104</b>                                      | 96                                | 13.57    | 3680                                           | 1.30                               |                                                                                    |           |             |              |                       |
| <b>122</b>                                      | 80                                | 11.56*   | 3540                                           | 1.05                               |                                                                                    |           |             |              |                       |
| <b>135</b>                                      | 74                                | 10.51    | 3480                                           | 1.20                               |                                                                                    |           |             |              |                       |
| <b>146</b>                                      | 68                                | 9.66     | 3440                                           | 1.30                               |                                                                                    |           |             |              |                       |
| <b>177</b>                                      | 55                                | 8.00     | 3170                                           | 1.05                               |                                                                                    |           |             |              |                       |
| <b>195</b>                                      | 51                                | 7.27     | 3120                                           | 1.20                               |                                                                                    |           |             |              |                       |
| <b>212</b>                                      | 47                                | 6.68     | 3070                                           | 1.30                               |                                                                                    |           |             |              |                       |
| <b>253</b>                                      | 39                                | 5.60     | 2910                                           | 1.05                               |                                                                                    |           |             |              |                       |
| <b>278</b>                                      | 36                                | 5.09     | 2850                                           | 1.20                               |                                                                                    |           |             |              |                       |
| <b>303</b>                                      | 33                                | 4.68     | 2800                                           | 1.30                               |                                                                                    |           |             |              |                       |
| <b>350</b>                                      | 28                                | 8.00     | 2780                                           | 2.0                                | <b>WA</b>                                                                          | <b>29</b> | <b>DR2S</b> | <b>80MS2</b> | 14                    |
| <b>385</b>                                      | 26                                | 7.27     | 2720                                           | 2.4                                |                                                                                    |           |             |              |                       |
| <b>419</b>                                      | 24                                | 6.68     | 2660                                           | 2.6                                |                                                                                    |           |             |              |                       |
| <b>500</b>                                      | 20                                | 5.60     | 2520                                           | 2.0                                |                                                                                    |           |             |              |                       |
| <b>550</b>                                      | 18                                | 5.09     | 2450                                           | 2.3                                |                                                                                    |           |             |              |                       |
| <b>599</b>                                      | 16                                | 4.68     | 2400                                           | 2.5                                | <b>WAF</b>                                                                         | <b>29</b> | <b>DR2S</b> | <b>80MS2</b> | 14                    |
|                                                 |                                   |          |                                                |                                    | <b>WF</b>                                                                          | <b>29</b> | <b>DR2S</b> | <b>80MS2</b> | 15                    |

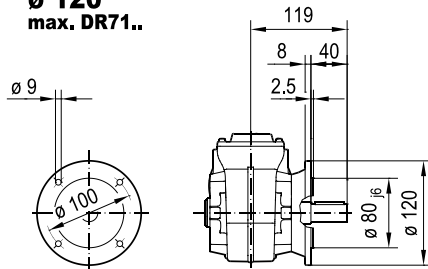
4 Dimension sheets for W..29/W..39 DR2S.. in mm

20 070 00 20

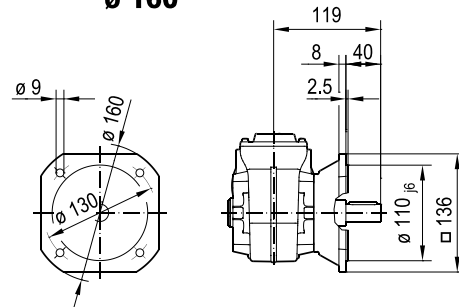
**WF29..**



**ø 120**  
max. DR71..

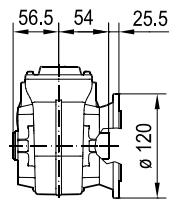


**ø 160**

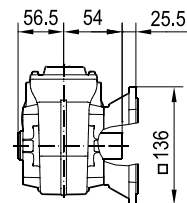


**WAF29**

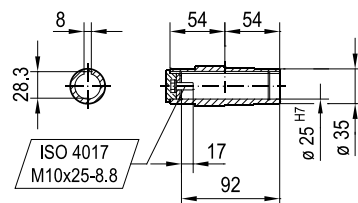
**ø 120**  
max. DR71..



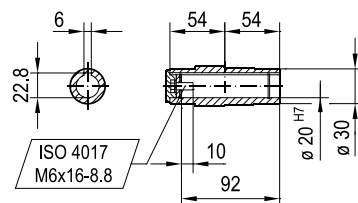
**ø 160**



**ø 25  $\text{H}_7$**

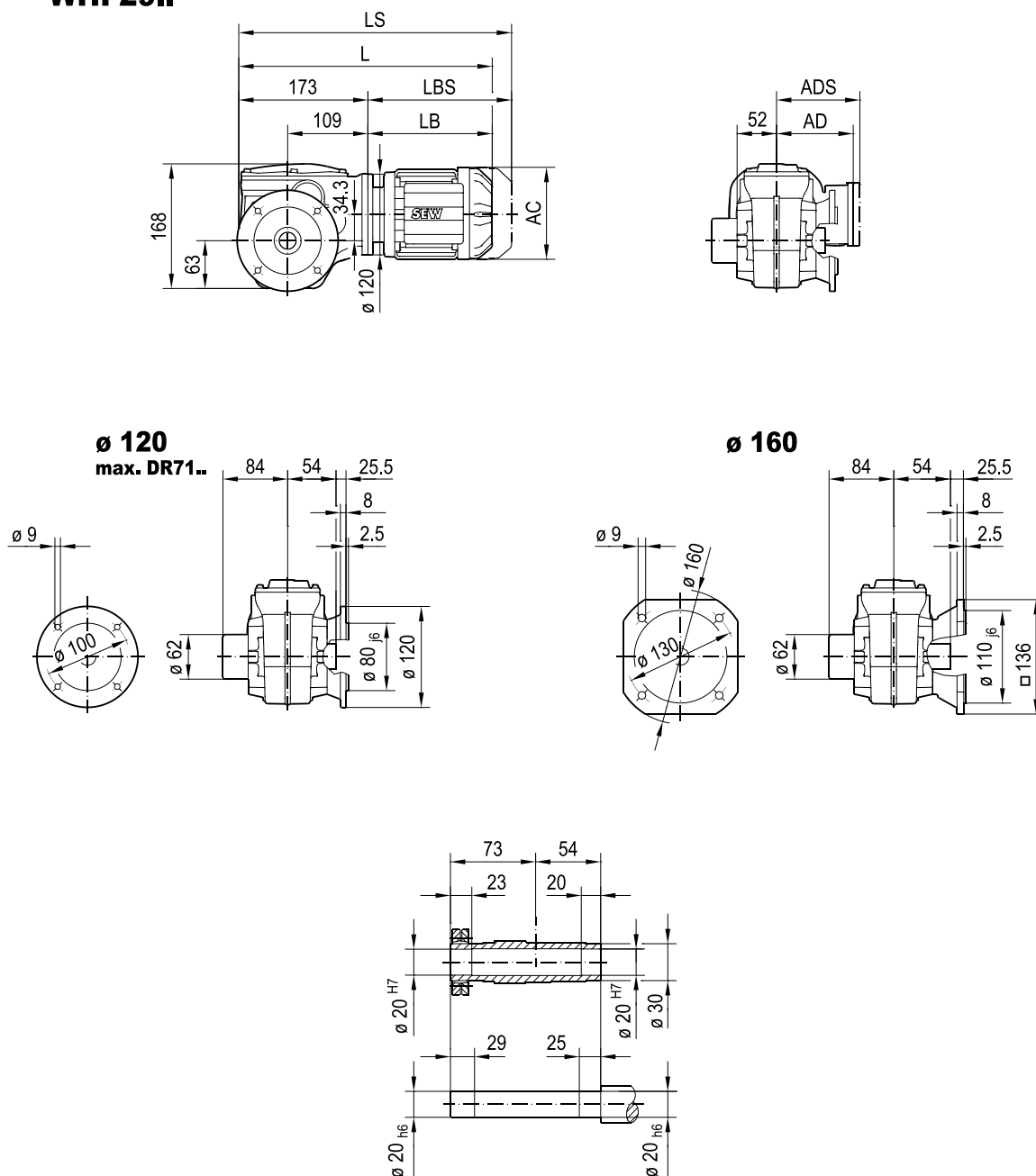


**ø 20  $\text{H}_7$**



| (-> 7.3) | DR2S |     |      |     |      |      |     |
|----------|------|-----|------|-----|------|------|-----|
|          | 63MS | 63M | 71MS | 71M | 80MK | 80MS | 80M |
| AC       | 115  | 115 | 139  | 139 | 156  | 156  | 156 |
| AD       | 98   | 98  | 118  | 118 | 128  | 128  | 128 |
| ADS      | 98   | 98  | 129  | 129 | 139  | 139  | 139 |
| L        | 363  | 377 | 379  | 399 | 410  | 427  | 455 |
| LS       | 419  | 433 | 446  | 466 | 491  | 508  | 536 |
| LB       | 190  | 204 | 206  | 226 | 237  | 254  | 282 |
| LBS      | 246  | 260 | 273  | 293 | 318  | 335  | 363 |

20 071 00 20

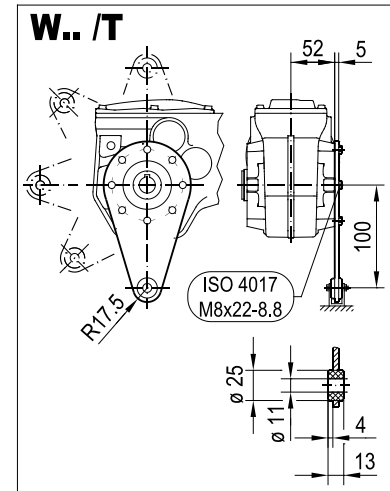
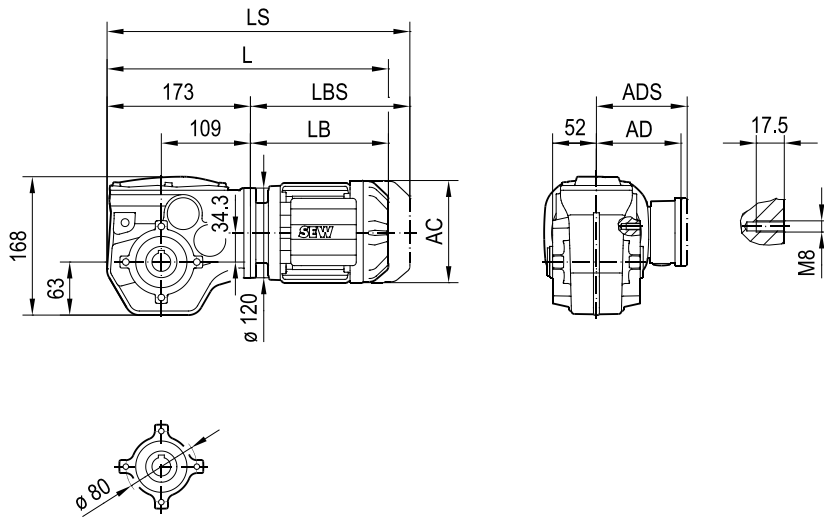
**WHF29..**

| (→ 7.3) | DR2S |     |      |     |      |      |     |  |
|---------|------|-----|------|-----|------|------|-----|--|
|         | 63MS | 63M | 71MS | 71M | 80MK | 80MS | 80M |  |
| AC      | 115  | 115 | 139  | 139 | 156  | 156  | 156 |  |
| AD      | 98   | 98  | 118  | 118 | 128  | 128  | 128 |  |
| ADS     | 98   | 98  | 129  | 129 | 139  | 139  | 139 |  |
| L       | 363  | 377 | 379  | 399 | 410  | 427  | 455 |  |
| LS      | 419  | 433 | 446  | 466 | 491  | 508  | 536 |  |
| LB      | 190  | 204 | 206  | 226 | 237  | 254  | 282 |  |
| LBS     | 246  | 260 | 273  | 293 | 318  | 335  | 363 |  |

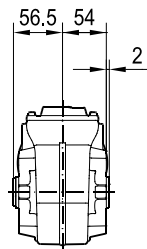
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20 072 00 20

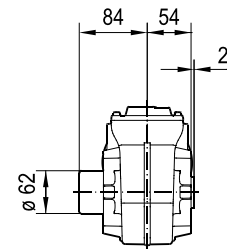
**WA29..**



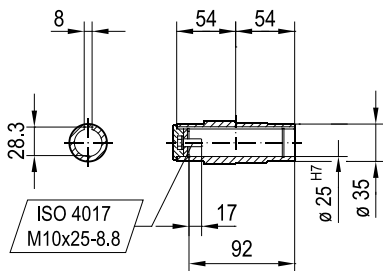
**WA29..**



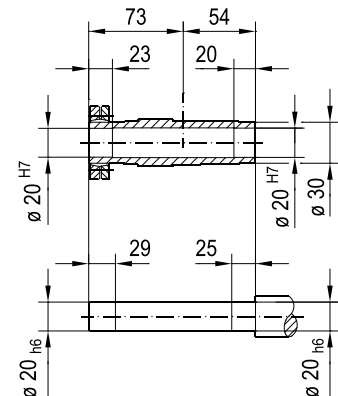
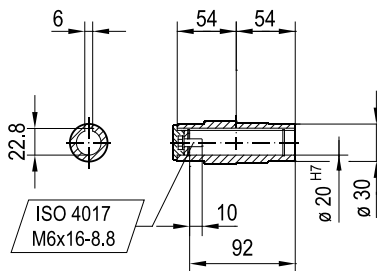
**WH29..**



**$\phi 25$  H7**



**$\phi 20$  H7**

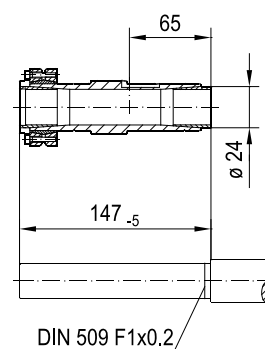
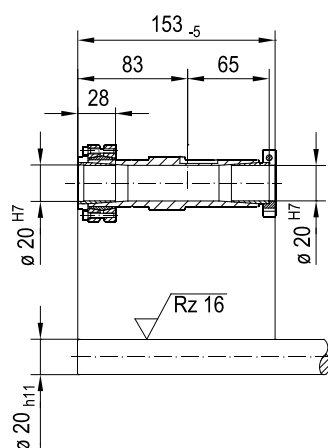
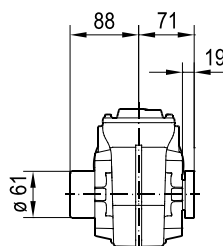
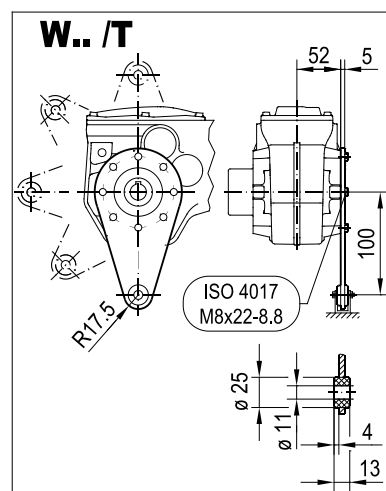
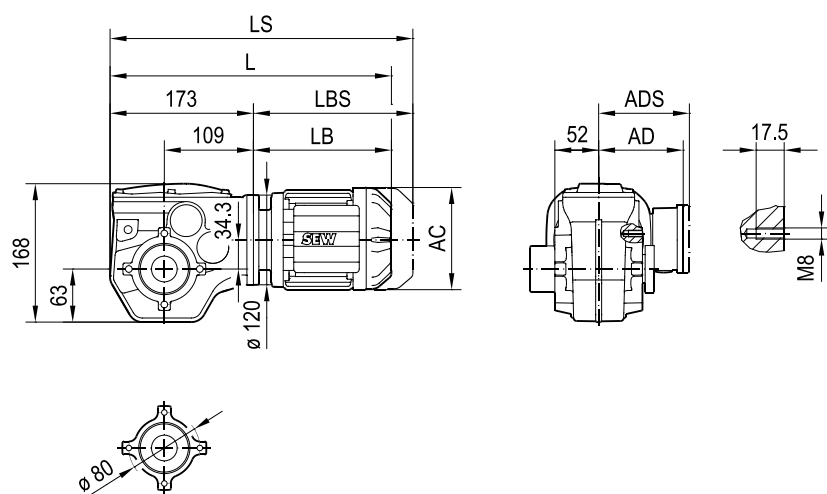


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| ( $\rightarrow$ 7.3) | DR2S |     |      |     |      |      |     |  |
|----------------------|------|-----|------|-----|------|------|-----|--|
|                      | 63MS | 63M | 71MS | 71M | 80MK | 80MS | 80M |  |
| AC                   | 115  | 115 | 139  | 139 | 156  | 156  | 156 |  |
| AD                   | 98   | 98  | 118  | 118 | 128  | 128  | 128 |  |
| ADS                  | 98   | 98  | 129  | 129 | 139  | 139  | 139 |  |
| L                    | 363  | 377 | 379  | 399 | 410  | 427  | 455 |  |
| LS                   | 419  | 433 | 446  | 466 | 491  | 508  | 536 |  |
| LB                   | 190  | 204 | 206  | 226 | 237  | 254  | 282 |  |
| LBS                  | 246  | 260 | 273  | 293 | 318  | 335  | 363 |  |

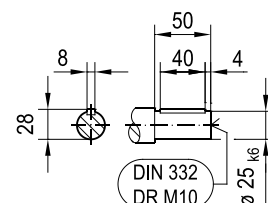
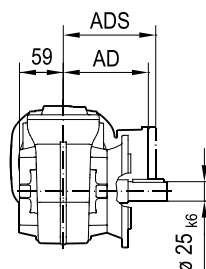
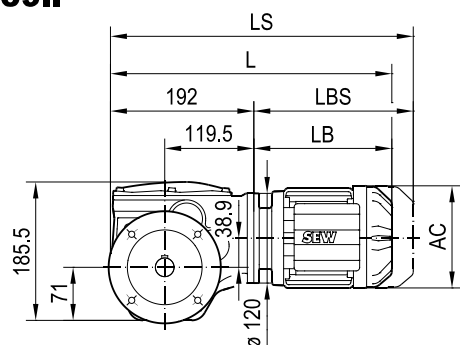
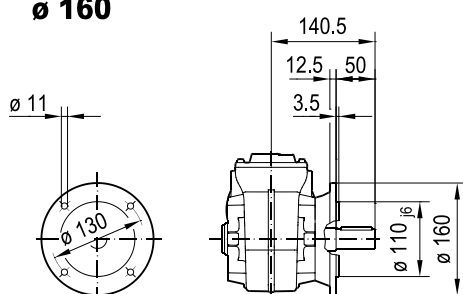
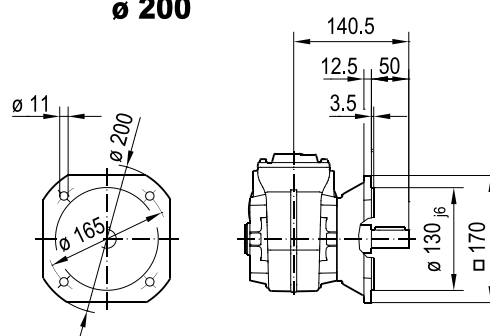
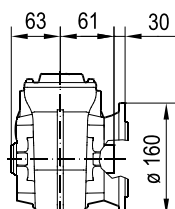
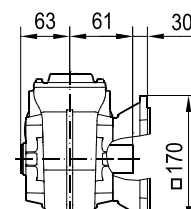
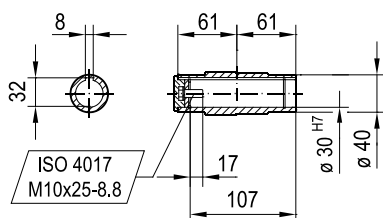
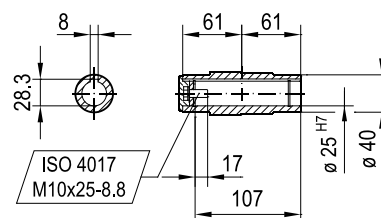
20 073 00 20

**WT29..**



| (→ 📊 7.3) | DR2S |     |      |     |      |      |     |  |
|-----------|------|-----|------|-----|------|------|-----|--|
|           | 63MS | 63M | 71MS | 71M | 80MK | 80MS | 80M |  |
| AC        | 115  | 115 | 139  | 139 | 156  | 156  | 156 |  |
| AD        | 98   | 98  | 118  | 118 | 128  | 128  | 128 |  |
| ADS       | 98   | 98  | 129  | 129 | 139  | 139  | 139 |  |
| L         | 363  | 377 | 379  | 399 | 410  | 427  | 455 |  |
| LS        | 419  | 433 | 446  | 466 | 491  | 508  | 536 |  |
| LB        | 190  | 204 | 206  | 226 | 237  | 254  | 282 |  |
| LBS       | 246  | 260 | 273  | 293 | 318  | 335  | 363 |  |

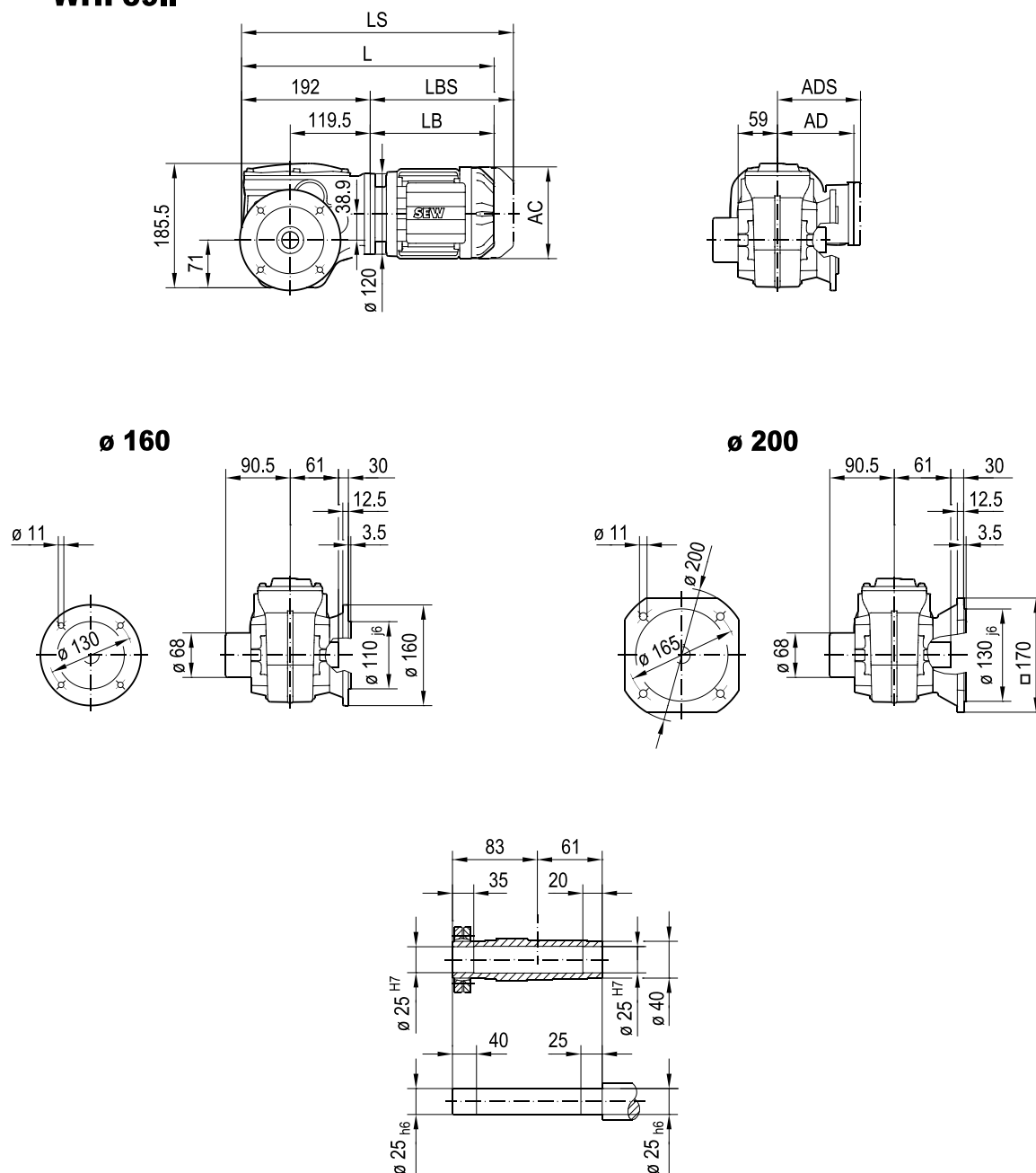
20 075 00 20

**WF39..**

**ø 160**

**ø 200**

**WAF39..**
**ø 160**

**ø 200**

**ø 30 H7  
DIN 6885-3**

**ø 25 H7**


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| (→ 7.3) | DR2S |     |      |     |      |      |     |     | DRS |
|---------|------|-----|------|-----|------|------|-----|-----|-----|
|         | 63MS | 63M | 71MS | 71M | 80MK | 80MS | 80M | 90M |     |
| AC      | 115  | 115 | 139  | 139 | 156  | 156  | 156 | 179 |     |
| AD      | 98   | 98  | 118  | 118 | 128  | 128  | 128 | 140 |     |
| ADS     | 98   | 98  | 129  | 129 | 139  | 139  | 139 | 150 |     |
| L       | 382  | 396 | 398  | 418 | 429  | 446  | 474 | 464 |     |
| LS      | 438  | 452 | 465  | 485 | 510  | 527  | 555 | 557 |     |
| LB      | 190  | 204 | 206  | 226 | 237  | 254  | 282 | 272 |     |
| LBS     | 246  | 260 | 273  | 293 | 318  | 335  | 363 | 365 |     |

20 076 00 20

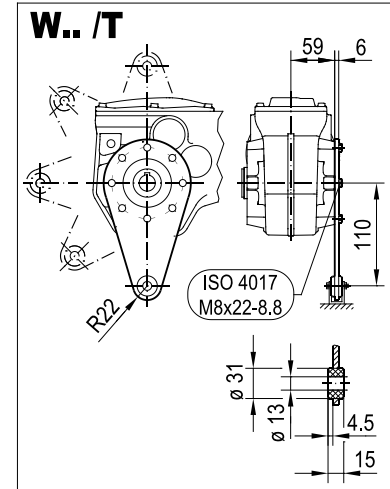
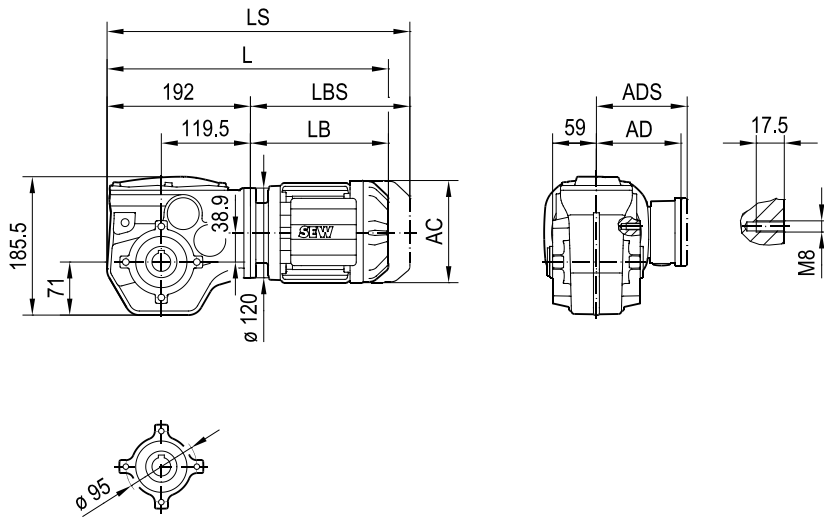
**WHF39..**

| ( $\rightarrow$ 7.3) | DR2S |     |      |     |      |      |     | DRS |
|----------------------|------|-----|------|-----|------|------|-----|-----|
|                      | 63MS | 63M | 71MS | 71M | 80MK | 80MS | 80M | 90M |
| AC                   | 115  | 115 | 139  | 139 | 156  | 156  | 156 | 179 |
| AD                   | 98   | 98  | 118  | 118 | 128  | 128  | 128 | 140 |
| ADS                  | 98   | 98  | 129  | 129 | 139  | 139  | 139 | 150 |
| L                    | 382  | 396 | 398  | 418 | 429  | 446  | 474 | 464 |
| LS                   | 438  | 452 | 465  | 485 | 510  | 527  | 555 | 557 |
| LB                   | 190  | 204 | 206  | 226 | 237  | 254  | 282 | 272 |
| LBS                  | 246  | 260 | 273  | 293 | 318  | 335  | 363 | 365 |

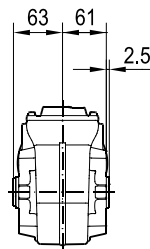
26857227/EN – 12/2020

20 077 00 20

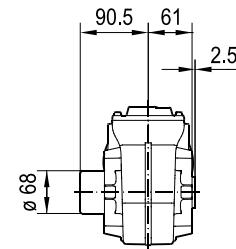
**WA39**



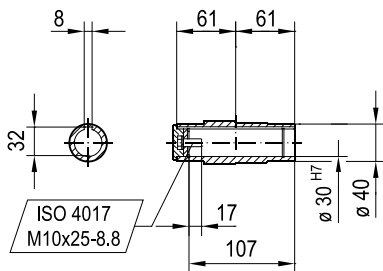
**WA39**



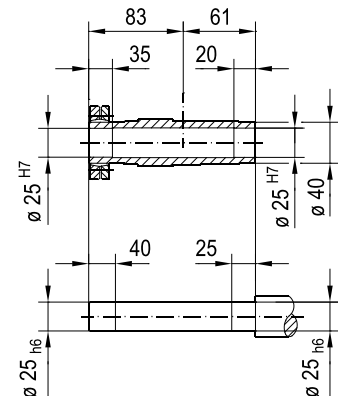
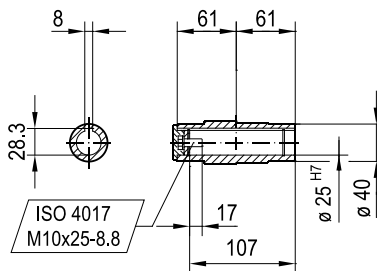
**WH39..**



**ø 30 H7**  
**DIN 6885-3**



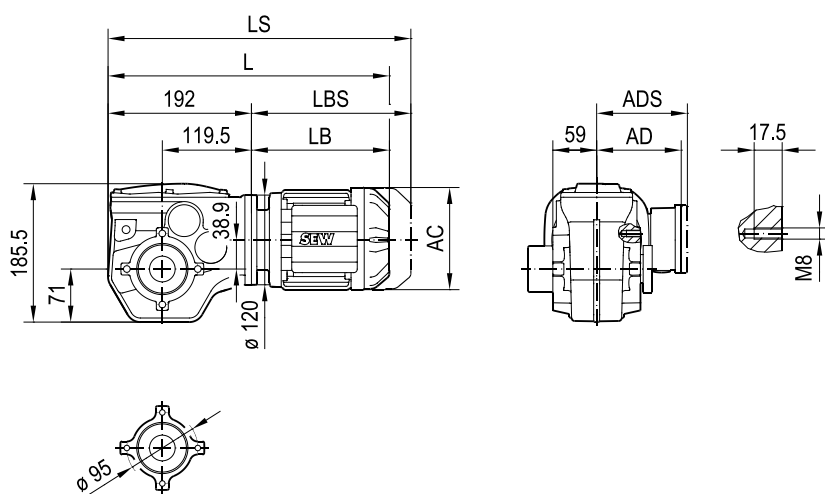
**ø 25 H7**



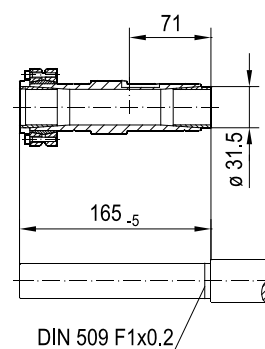
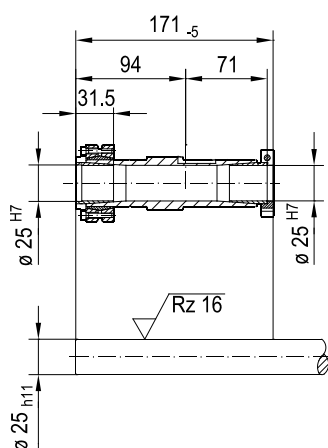
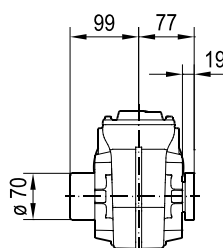
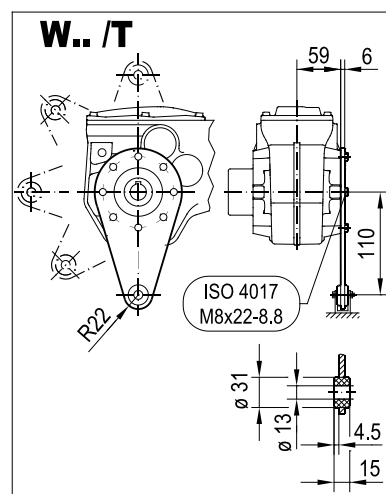
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| (→ 7.3) | DR2S |     |      |     |      |      |     |     | DRS |
|---------|------|-----|------|-----|------|------|-----|-----|-----|
|         | 63MS | 63M | 71MS | 71M | 80MK | 80MS | 80M | 90M |     |
| AC      | 115  | 115 | 139  | 139 | 156  | 156  | 156 | 179 |     |
| AD      | 98   | 98  | 118  | 118 | 128  | 128  | 128 | 140 |     |
| ADS     | 98   | 98  | 129  | 129 | 139  | 139  | 139 | 150 |     |
| L       | 382  | 396 | 398  | 418 | 429  | 446  | 474 | 464 |     |
| LS      | 438  | 452 | 465  | 485 | 510  | 527  | 555 | 557 |     |
| LB      | 190  | 204 | 206  | 226 | 237  | 254  | 282 | 272 |     |
| LBS     | 246  | 260 | 273  | 293 | 318  | 335  | 363 | 365 |     |

## WT39..

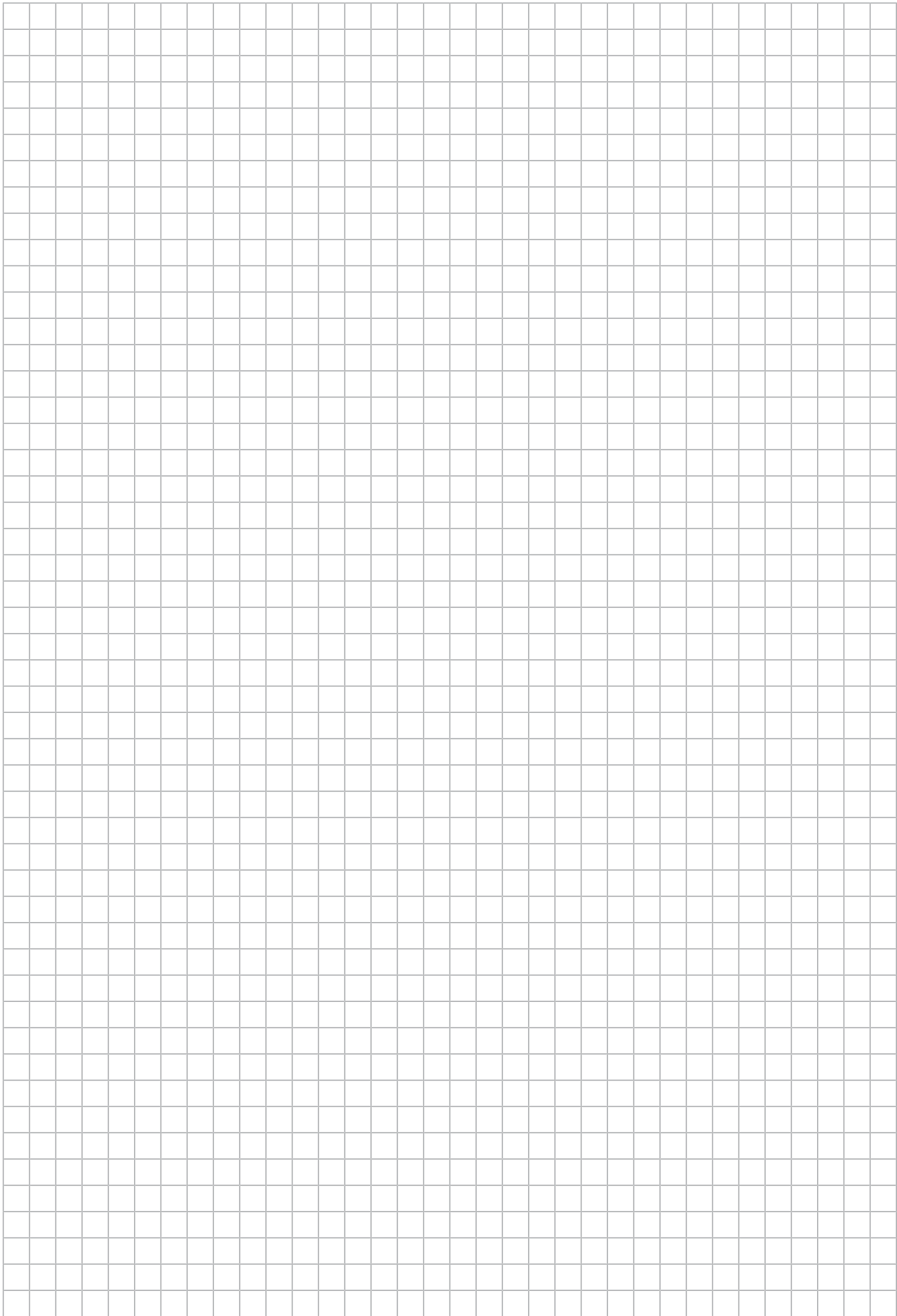


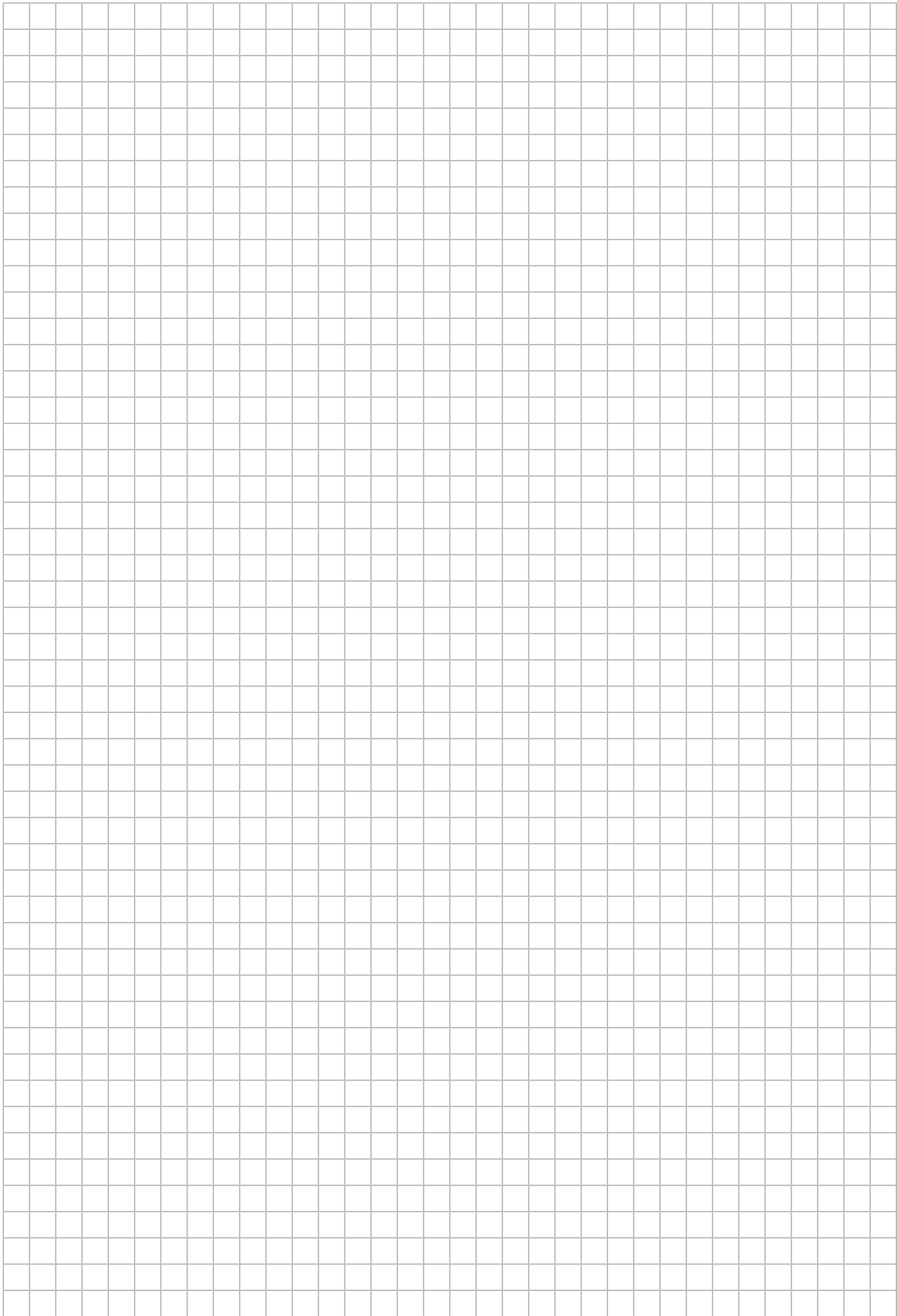
20 078 00 20

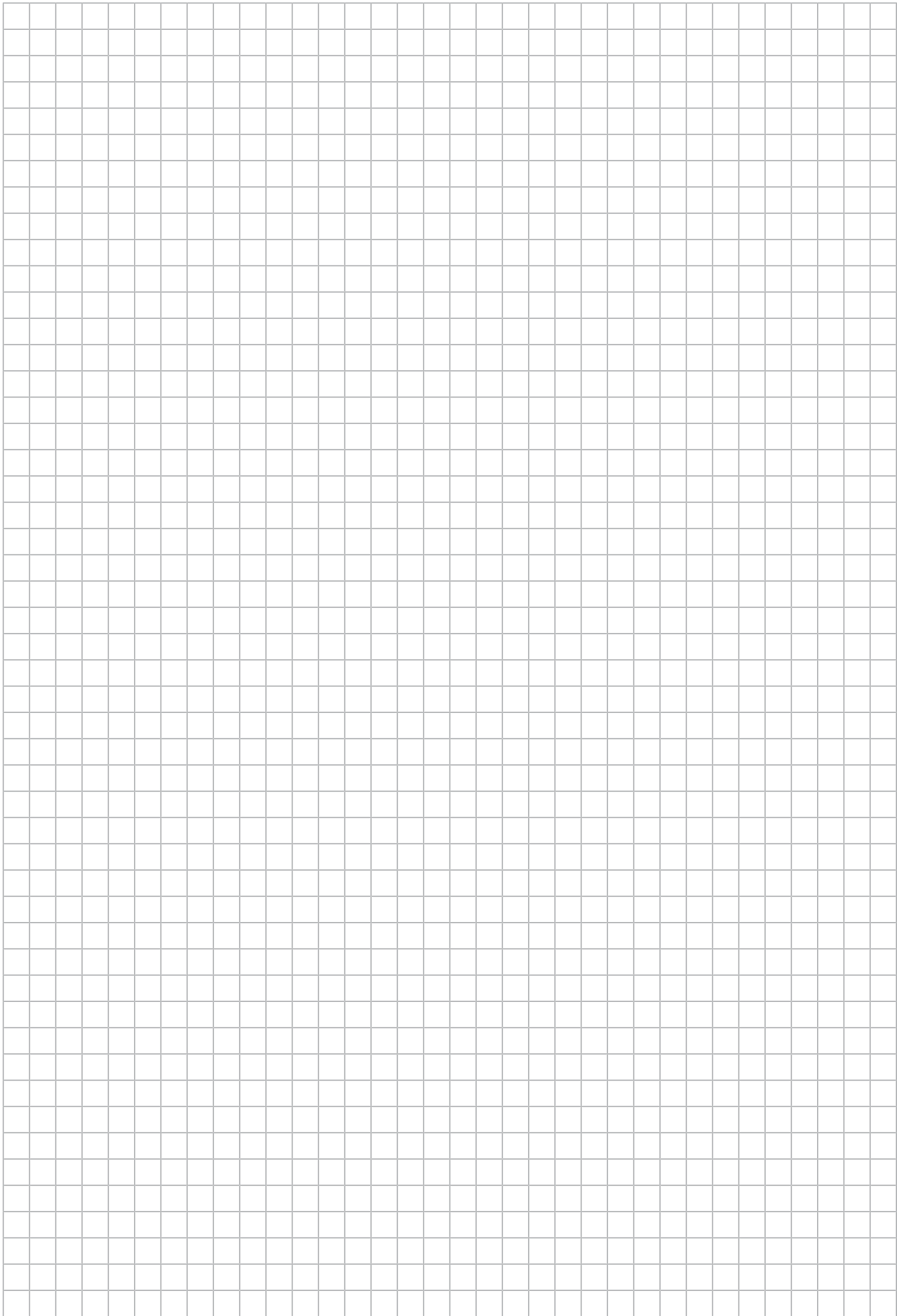


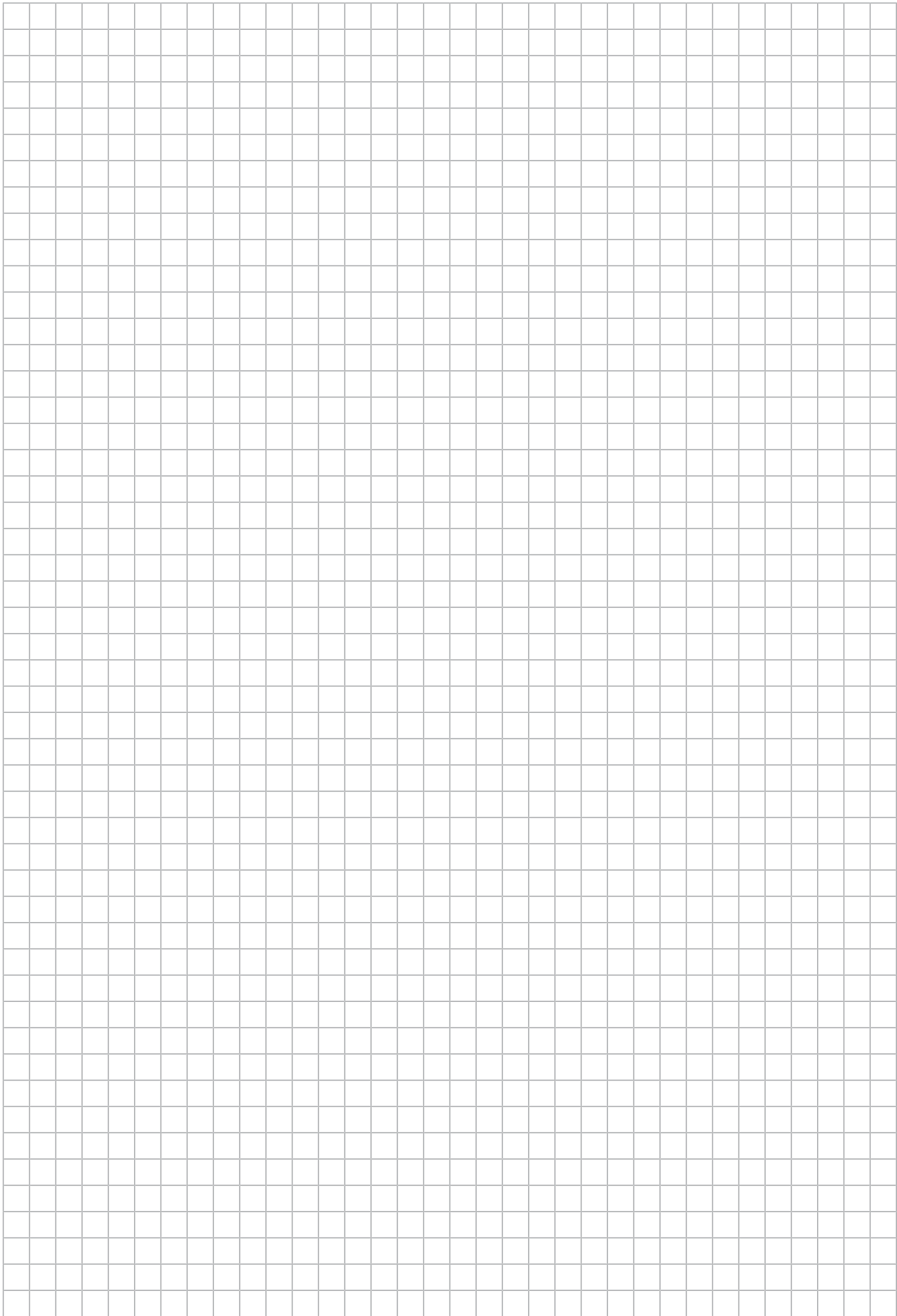
| (> 7.3) | DR2S |     |      |     |      |      |     | DRS |
|---------|------|-----|------|-----|------|------|-----|-----|
|         | 63MS | 63M | 71MS | 71M | 80MK | 80MS | 80M | 90M |
| AC      | 115  | 115 | 139  | 139 | 156  | 156  | 156 | 179 |
| AD      | 98   | 98  | 118  | 118 | 128  | 128  | 128 | 140 |
| ADS     | 98   | 98  | 129  | 129 | 139  | 139  | 139 | 150 |
| L       | 382  | 396 | 398  | 418 | 429  | 446  | 474 | 464 |
| LS      | 438  | 452 | 465  | 485 | 510  | 527  | 555 | 557 |
| LB      | 190  | 204 | 206  | 226 | 237  | 254  | 282 | 272 |
| LBS     | 246  | 260 | 273  | 293 | 318  | 335  | 363 | 365 |

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