

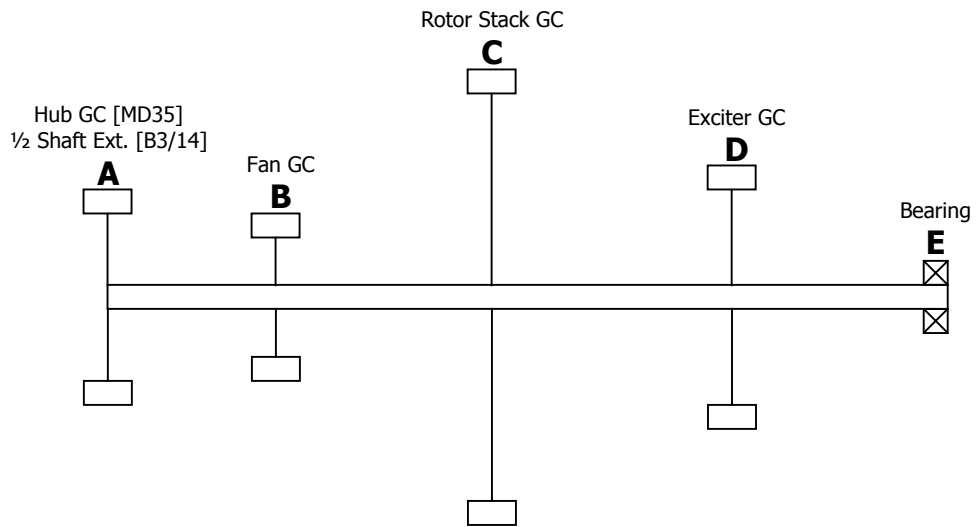


Guida Tecnica: Rigidezza Degli Alberi

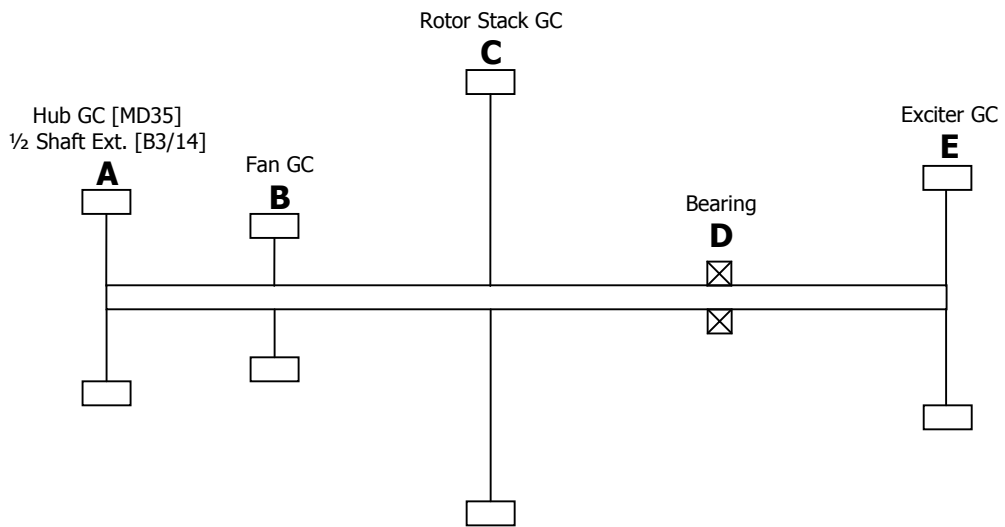
Technical Guide: Shaft Stiffness



ECP 34/4 MD35-B3/14



- ECO 38N/4 MD35-B3/14
- ECO 40/4 MD35-B3/14
- ECO 43N/4 MD35-B3/14
- ECO 46/4 MD35-B3/14



Shaft steel main characteristic:

| | |
|---|---------------------------------|
| Steel grade: | C45 according to UNI EN 10083/1 |
| Elasticity Module [Kg/mm] | 8600 |
| Maximum allowable shaft stress [N/mm ²] | 50 |

ECP 34/4 B3/B14

| Model | A - B | B - C | C - D | D - E | A - C |
|------------|-------------|-------------|-------------|-------------|-------------|
| ECP34-1S/4 | 1,32220E+06 | 1,71718E+06 | 1,06381E+06 | 1,50862E+06 | 7,47011E+05 |
| ECP34-2S/4 | 1,32220E+06 | 1,49060E+06 | 1,17440E+06 | 1,50862E+06 | 7,00679E+05 |
| ECP34-1L/4 | 1,32220E+06 | 1,39835E+06 | 9,58508E+05 | 1,50862E+06 | 6,79603E+05 |
| ECP34-2L/4 | 1,32220E+06 | 1,26760E+06 | 1,03144E+06 | 1,50862E+06 | 6,47160E+05 |
| ECP34-3L/4 | 1,32220E+06 | 1,26760E+06 | 1,03144E+06 | 1,50862E+06 | 6,47160E+05 |

All values are given in Nm/Rad.

ECO 38/N4 B3/14

| Model | A - B | B - C | C - D | D - E | A - C |
|-------------|-------------|-------------|-------------|-------------|-------------|
| ECO38-1SN/4 | 3,35674E+06 | 2,75013E+06 | 2,25880E+06 | 1,22522E+06 | 1,51165E+06 |
| ECO38-2SN/4 | 3,35674E+06 | 2,64231E+06 | 2,33713E+06 | 1,22522E+06 | 1,47849E+06 |
| ECO38-3SN/4 | 3,35674E+06 | 2,49554E+06 | 2,46538E+06 | 1,22522E+06 | 1,43139E+06 |
| ECO38-1LN/4 | 3,35674E+06 | 2,32347E+06 | 1,45445E+06 | 1,22522E+06 | 1,37306E+06 |
| ECO38-2LN/4 | 3,35674E+06 | 2,09912E+06 | 1,55874E+06 | 1,22522E+06 | 1,29149E+06 |
| ECO38-3LN/4 | 3,35674E+06 | 1,79690E+06 | 1,78120E+06 | 1,22522E+06 | 1,17038E+06 |

All values are given in Nm/Rad.

ECO 40/4 B3/14

| Model | A - B | B - C | C - D | D - E | A - C |
|--------------|-------------|-------------|-------------|-------------|-------------|
| ECO40-1S/4 | 4,63671E+06 | 5,22883E+06 | 9,35384E+06 | 4,05859E+06 | 2,45750E+06 |
| ECO40-2S/4 | 4,63671E+06 | 4,76598E+06 | 1,13206E+07 | 4,05859E+06 | 2,35023E+06 |
| ECO40-3S/4 | 4,63671E+06 | 4,41833E+06 | 1,39227E+07 | 4,05859E+06 | 2,26244E+06 |
| ECO40-1L/4 | 4,63671E+06 | 4,11795E+06 | 5,22141E+06 | 4,05859E+06 | 2,18098E+06 |
| ECO40-1.5L/4 | 4,63671E+06 | 3,59813E+06 | 6,39237E+06 | 4,05859E+06 | 2,02596E+06 |
| ECO40-2L/4 | 4,63671E+06 | 3,39637E+06 | 7,14658E+06 | 4,05859E+06 | 1,96039E+06 |
| ECO40-VL/4 | 4,63671E+06 | 2,96785E+06 | 5,55671E+06 | 4,05859E+06 | 1,80958E+06 |

All values are given in Nm/Rad.

ECO 43/N4 B3/14

| Model | A - B | B - C | C - D | D - E | A - C |
|-------------|-------------|-------------|-------------|-------------|-------------|
| ECO43-1SN/4 | 6,63553E+06 | 8,04157E+06 | 6,34885E+06 | 5,57601E+06 | 3,63560E+06 |
| ECO43-2SN/4 | 6,63553E+06 | 7,38744E+06 | 6,82605E+06 | 5,57601E+06 | 3,49566E+06 |
| ECO43-1LN/4 | 6,63553E+06 | 6,68797E+06 | 5,12134E+06 | 5,57601E+06 | 3,33083E+06 |
| ECO43-2LN/4 | 6,63553E+06 | 5,99429E+06 | 5,61930E+06 | 5,57601E+06 | 3,14932E+06 |
| ECO43-VLN/4 | 6,63553E+06 | 5,75030E+06 | 4,97716E+06 | 5,57601E+06 | 3,08064E+06 |

All values are given in Nm/Rad.

ECO 46/4 B3/14

| Model | A - B | B - C | C - D | D - E | A - C |
|--------------|-------------|-------------|-------------|-------------|-------------|
| ECO46-1S/4 | 1,48962E+07 | 1,74870E+07 | 9,76883E+06 | 4,32992E+06 | 8,04398E+06 |
| ECO46-1.5S/4 | 1,48962E+07 | 1,56993E+07 | 1,04325E+07 | 4,32992E+06 | 7,64360E+06 |
| ECO46-2S/4 | 1,48962E+07 | 1,50170E+07 | 1,07572E+07 | 4,32992E+06 | 7,47818E+06 |
| ECO46-1L/4 | 1,48962E+07 | 1,35453E+07 | 8,72097E+06 | 4,32992E+06 | 7,09433E+06 |
| ECO46-1.5L/4 | 1,48962E+07 | 1,25605E+07 | 9,18459E+06 | 4,32992E+06 | 6,81450E+06 |
| ECO46-2L/4 | 1,48962E+07 | 1,31585E+07 | 9,50025E+06 | 4,32992E+06 | 6,98677E+06 |

All values are given in Nm/Rad.

ECP 34/4 MD35

| Model | SAE Disk | A - B | B - C | C - D | D - E | A - C |
|------------|----------|-------------|-------------|-------------|-------------|-------------|
| ECP34-1S/4 | 10 | 1,07334E+06 | 1,71718E+06 | 1,06381E+06 | 1,50862E+06 | 6,60491E+05 |
| | 11,5 | 1,07178E+06 | 1,71718E+06 | 1,06381E+06 | 1,50862E+06 | 6,59901E+05 |
| | 14 | 1,07334E+06 | 1,71718E+06 | 1,06381E+06 | 1,50862E+06 | 6,60491E+05 |
| ECP34-2S/4 | 10 | 1,07334E+06 | 1,49060E+06 | 1,17440E+06 | 1,50862E+06 | 6,24008E+05 |
| | 11,5 | 1,07178E+06 | 1,49060E+06 | 1,17440E+06 | 1,50862E+06 | 6,23481E+05 |
| | 14 | 1,07334E+06 | 1,49060E+06 | 1,17440E+06 | 1,50862E+06 | 6,24008E+05 |
| ECP34-1L/4 | 10 | 1,07334E+06 | 1,39835E+06 | 9,58508E+05 | 1,50862E+06 | 6,07237E+05 |
| | 11,5 | 1,07178E+06 | 1,39835E+06 | 9,58508E+05 | 1,50862E+06 | 6,06738E+05 |
| | 14 | 1,07334E+06 | 1,39835E+06 | 9,58508E+05 | 1,50862E+06 | 6,07237E+05 |
| ECP34-2L/4 | 10 | 1,07334E+06 | 1,26760E+06 | 1,03144E+06 | 1,50862E+06 | 5,81203E+05 |
| | 11,5 | 1,07178E+06 | 1,26760E+06 | 1,03144E+06 | 1,50862E+06 | 5,80746E+05 |
| | 14 | 1,07334E+06 | 1,26760E+06 | 1,03144E+06 | 1,50862E+06 | 5,81203E+05 |
| ECP34-3L/4 | 10 | 1,07334E+06 | 1,26760E+06 | 1,03144E+06 | 1,50862E+06 | 5,81203E+05 |
| | 11,5 | 1,07178E+06 | 1,26760E+06 | 1,03144E+06 | 1,50862E+06 | 5,80746E+05 |
| | 14 | 1,07334E+06 | 1,26760E+06 | 1,03144E+06 | 1,50862E+06 | 5,81203E+05 |

All values are given in Nm/Rad.

ECO 38/N4 MD35

| Model | SAE Disk | A - B | B - C | C - D | D - E | A - C |
|-------------|----------|-------------|-------------|-------------|-------------|-------------|
| ECO38-1SN/4 | 11,5 | 3,24819E+06 | 2,75013E+06 | 2,25880E+06 | 1,22522E+06 | 1,48924E+06 |
| | 14 | 3,44509E+06 | 2,75013E+06 | 2,25880E+06 | 1,22522E+06 | 1,52932E+06 |
| ECO38-2SN/4 | 11,5 | 3,24819E+06 | 2,64231E+06 | 2,33713E+06 | 1,22522E+06 | 1,45704E+06 |
| | 14 | 3,44509E+06 | 2,64231E+06 | 2,33713E+06 | 1,22522E+06 | 1,49538E+06 |
| ECO38-3SN/4 | 11,5 | 3,24819E+06 | 2,49554E+06 | 2,46538E+06 | 1,22522E+06 | 1,41128E+06 |
| | 14 | 3,44509E+06 | 2,49554E+06 | 2,46538E+06 | 1,22522E+06 | 1,44722E+06 |
| ECO38-1LN/4 | 11,5 | 3,24819E+06 | 2,32347E+06 | 1,45445E+06 | 1,22522E+06 | 1,35455E+06 |
| | 14 | 3,44509E+06 | 2,32347E+06 | 1,45445E+06 | 1,22522E+06 | 1,38762E+06 |
| ECO38-2LN/4 | 11,5 | 3,24819E+06 | 2,09912E+06 | 1,55874E+06 | 1,22522E+06 | 1,27510E+06 |
| | 14 | 3,44509E+06 | 2,09912E+06 | 1,55874E+06 | 1,22522E+06 | 1,30436E+06 |
| ECO38-3LN/4 | 11,5 | 3,24819E+06 | 1,79690E+06 | 1,78120E+06 | 1,22522E+06 | 1,15690E+06 |
| | 14 | 3,44509E+06 | 1,79690E+06 | 1,78120E+06 | 1,22522E+06 | 1,18094E+06 |

All values are given in Nm/Rad.

ECO 40/4 MD35

| Model | SAE Disk | A - B | B - C | C - D | D - E | A - C |
|--------------|----------|-------------|-------------|-------------|-------------|-------------|
| ECO40-1S/4 | 14 | 9,01545E+06 | 5,22883E+06 | 1,86209E+06 | 4,05859E+06 | 3,30942E+06 |
| | 18 | 9,22133E+06 | 5,22883E+06 | 1,86209E+06 | 4,05859E+06 | 3,33677E+06 |
| ECO40-2S/4 | 14 | 9,01545E+06 | 4,76598E+06 | 1,92880E+06 | 4,05859E+06 | 3,11778E+06 |
| | 18 | 9,22133E+06 | 4,76598E+06 | 1,92880E+06 | 4,05859E+06 | 3,14204E+06 |
| ECO40-3S/4 | 14 | 9,01545E+06 | 4,41833E+06 | 1,99224E+06 | 4,05859E+06 | 2,96515E+06 |
| | 18 | 9,22133E+06 | 4,41833E+06 | 1,99224E+06 | 4,05859E+06 | 2,98709E+06 |
| ECO40-1L/4 | 14 | 9,01545E+06 | 4,11795E+06 | 1,60864E+06 | 4,05859E+06 | 2,82677E+06 |
| | 18 | 9,22133E+06 | 4,11795E+06 | 1,60864E+06 | 4,05859E+06 | 2,84670E+06 |
| ECO40-1.5L/4 | 14 | 9,01545E+06 | 3,59813E+06 | 1,70486E+06 | 4,05859E+06 | 2,57173E+06 |
| | 18 | 9,22133E+06 | 3,59813E+06 | 1,70486E+06 | 4,05859E+06 | 2,58822E+06 |
| ECO40-2L/4 | 14 | 9,01545E+06 | 3,39637E+06 | 1,75423E+06 | 4,05859E+06 | 2,46699E+06 |
| | 18 | 9,22133E+06 | 3,39637E+06 | 1,75423E+06 | 4,05859E+06 | 2,48215E+06 |
| ECO40-VL/4 | 14 | 9,01545E+06 | 2,96785E+06 | 1,63911E+06 | 4,05859E+06 | 2,23282E+06 |
| | 18 | 9,22133E+06 | 2,96785E+06 | 1,63911E+06 | 4,05859E+06 | 2,24523E+06 |

All values are given in Nm/Rad.

ECO 43/N4 MD35

| Model | SAE Disk | A - B | B - C | C - D | D - E | A - C |
|-------------|----------|-------------|-------------|-------------|-------------|-------------|
| ECO43-1SN/4 | 18 | 1,13690E+07 | 8,04360E+06 | 8,17915E+06 | 5,57601E+06 | 4,71074E+06 |
| ECO43-2SN/4 | 18 | 1,13690E+07 | 7,38915E+06 | 8,98869E+06 | 5,57601E+06 | 4,47844E+06 |
| ECO43-1LN/4 | 18 | 1,13690E+07 | 6,63354E+06 | 6,29897E+06 | 5,57601E+06 | 4,18923E+06 |
| ECO43-2LN/4 | 18 | 1,13690E+07 | 5,99542E+06 | 7,00715E+06 | 5,57601E+06 | 3,92538E+06 |
| ECO43-VLN/4 | 18 | 1,13690E+07 | 5,74407E+06 | 4,97716E+06 | 5,57601E+06 | 3,81880E+06 |

All values are given in Nm/Rad.

ECO 46/4 MD35

| Model | SAE Disk | A - B | B - C | C - D | D - E | A - C |
|--------------|----------|-------------|-------------|-------------|-------------|-------------|
| ECO46-1S/4 | 18 | 2,24299E+07 | 1,74870E+07 | 9,76883E+06 | 4,32992E+06 | 9,82621E+06 |
| | 21 | 2,10625E+07 | 1,74870E+07 | 9,76883E+06 | 4,32992E+06 | 9,55447E+06 |
| ECO46-1.5S/4 | 18 | 2,24299E+07 | 1,56993E+07 | 1,04325E+07 | 4,32992E+06 | 9,23528E+06 |
| | 21 | 2,10625E+07 | 1,56993E+07 | 1,04325E+07 | 4,32992E+06 | 8,99484E+06 |
| ECO46-2S/4 | 18 | 2,24299E+07 | 1,50170E+07 | 1,07572E+07 | 4,32992E+06 | 8,99486E+06 |
| | 21 | 2,10625E+07 | 1,50170E+07 | 1,07572E+07 | 4,32992E+06 | 8,76663E+06 |
| ECO46-1L/4 | 18 | 2,24299E+07 | 1,35453E+07 | 8,72097E+06 | 4,32992E+06 | 8,44525E+06 |
| | 21 | 2,10625E+07 | 1,35453E+07 | 8,72097E+06 | 4,32992E+06 | 8,24375E+06 |
| ECO46-1.5L/4 | 18 | 2,24299E+07 | 1,25605E+07 | 9,18459E+06 | 4,32992E+06 | 8,05166E+06 |
| | 21 | 2,10625E+07 | 1,25605E+07 | 9,18459E+06 | 4,32992E+06 | 7,86829E+06 |
| ECO46-2L/4 | 18 | 2,24299E+07 | 1,31585E+07 | 9,50025E+06 | 4,32992E+06 | 8,29326E+06 |
| | 21 | 2,10625E+07 | 1,31585E+07 | 9,50025E+06 | 4,32992E+06 | 8,09885E+06 |

All values are given in Nm/Rad.

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