ALT ROLLER SCREWS

# BREAKTHROUGH INNOVATION

## in Roller Screws Technology

## New Extremely High Capacity & Motion Dynamics

Made by Roller Screws Experts

ALT BEARINGS®

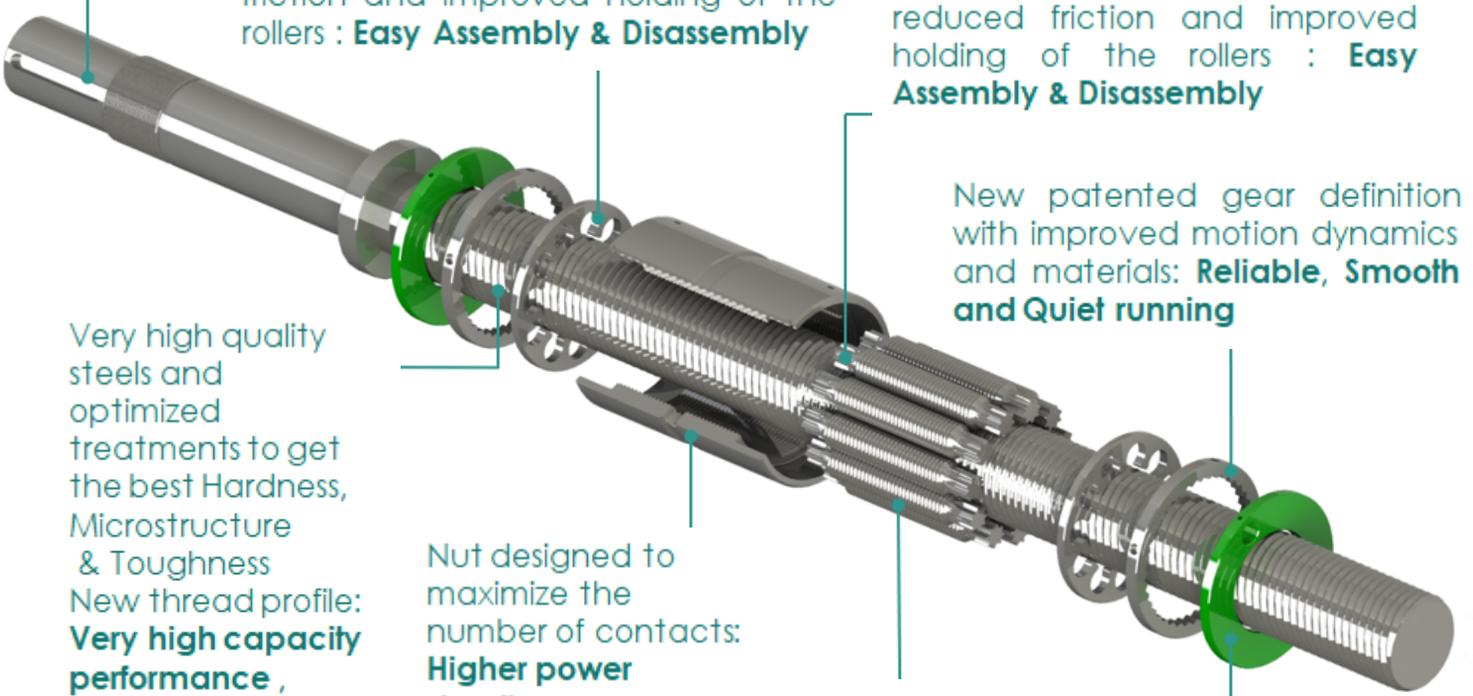
# New Roller Screws Features

End machining made to customer specifications to fit with HRB high performance bearing: **Combo bearing + screw = the world's highest power density**

New patented guide with reduced friction and improved holding of the rollers : **Easy Assembly & Disassembly**

New patented guide with reduced friction and improved holding of the rollers : **Easy Assembly & Disassembly**

New patented gear definition with improved motion dynamics and materials: **Reliable**, **Smooth and Quiet running**

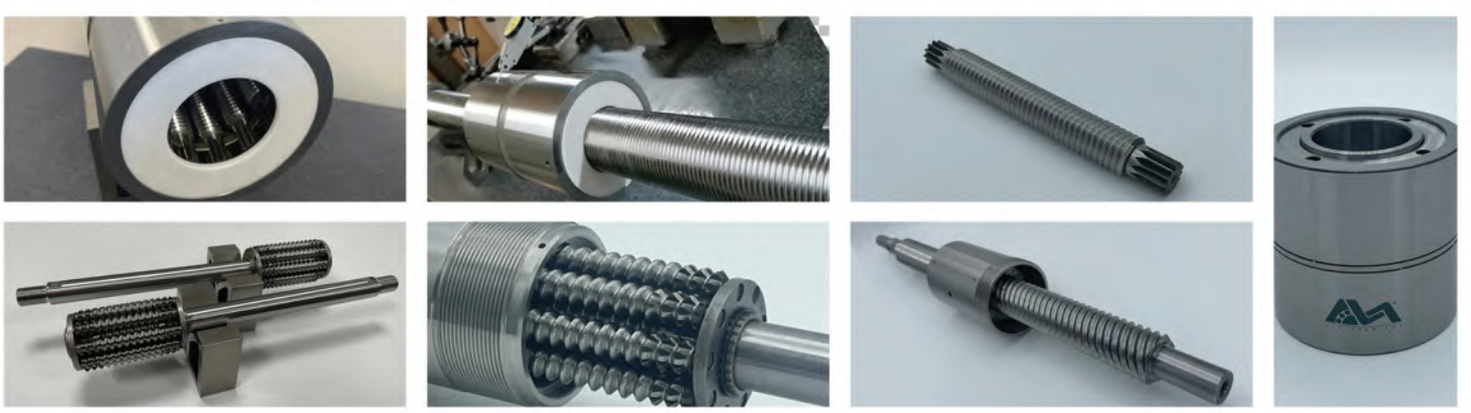


Very high quality steels and optimized treatments to get the best Hardness, Microstructure & Toughness
New thread profile: **Very high capacity performance , extended life & reliability**

Nut designed to maximize the number of contacts: **Higher power density**

Roller thread length enlarged to the max possible while keeping an optiumum load distribution: **Higher stiffness and capacity ratings**

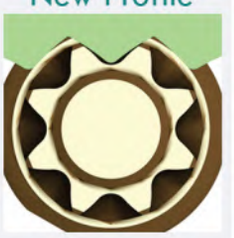
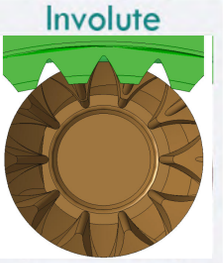
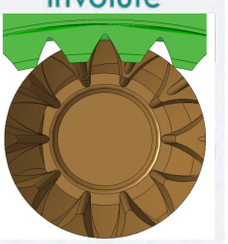
Low friction patented wipers. Can be combined with Condition monitoring Accessories: **Optimum cost of ownership**



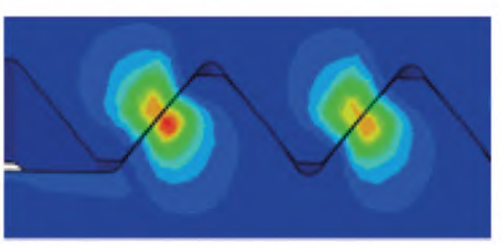
# Revolution in roller screw design

## BOOST YOUR APPLICATIONS

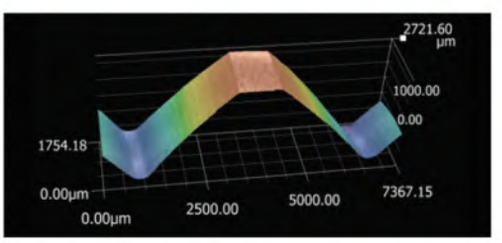
New gears for unprecedented performance and cleaner lubricant for longer life.

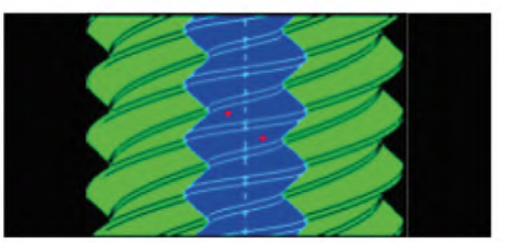
| | ALT Roller Screws | Competing | Designs |
|---|---|---|---|
| Gears | New Profile  | Involute  | Involute  |
| Kinematics | ⊕⊕⊕ | ⊕⊕ | ⊕⊕ |
| Crossout of gear with threads (sharp edges and contamination of lubricant) |  No |  Yes |  Yes |
| Roller useful length | ⊕⊕⊕ | ⊕⊕ | ⊕⊕ |
| Wear resistance & cleanliness | ⊕⊕⊕ | ⊕ | ⊕ |
| Capacity & Life | ⊕⊕⊕ | ⊕⊕ | ⊕⊕ |

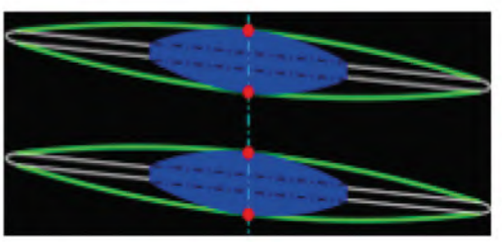
Very high & reliable capacity ratings

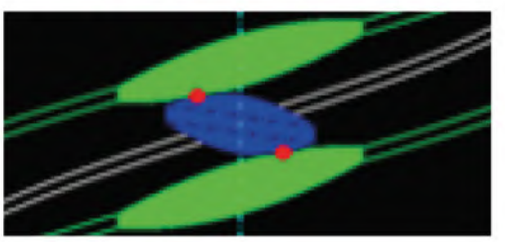


Advanced roller screw modelling to speed up developments & simulate performance.

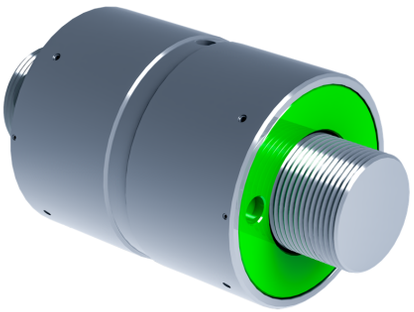






# Standard & Ultra Capacity Planetary Roller Screws: SRS & URS ranges



The SRS/URS is a high precision and robust design where rollers do not recirculate which enables a very stable driving torque and motion control.

The screw can be used under very high speed and acceleration and the very high capacity ratings give an extended and reliable life within the smallest possible envelope.

## SRS - Ø4 to Ø120 mm

## Lead -1 to 36 mm

### Standard Roller Screw (SRS) - Dynamic load capacity Ca (kN)

| Nominal diameter d0 (mm) \ Lead [ mm ] | 1 | 2 | 3 | 4 | 5 | 6 | 8 | 9 | 10 | 12 | 15 | 18 | 20 | 24 | 25 | 30 | 35 | 36 | 42 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 7 | 8 | 9 | | | | | | | | | | | | | | | | |
| 8 | 13 | 15 | 16 | 17 | | | | | | | | | | | | | | | |
| 12 | | 18 | 19 | 20 | 22 | 22 | 23 | | | | | | | | | | | | |
| 15 | | 30 | 33 | 36 | 38 | 39 | 41 | | | | | | | | | | | | |
| 18 | | 43 | 47 | 50 | 53 | 55 | 58 | | 62 | | | | | | | | | | |
| 21 | | 54 | 59 | 64 | 66 | 70 | 75 | | 78 | | | | | | | | | | |
| 24 | | | 56 | | | 66 | | | | 77 | | | | | | | | | |
| 24 | | 66 | | 91 | 97 | 99 | 105 | | 112 | | 120 | | | | | | | | |
| 27 | | 85 | | 101 | 106 | 106 | 106 | | 110 | | 118 | | | | | | | | |
| 30 | | 98 | | 116 | 123 | 127 | 137 | | 145 | | 156 | | 193 | | | | | | |
| 36 | | | | | | 122 | | 133 | | 142 | | 152 | | 195 | | | | | |
| 36 | | 128 | | 151 | 160 | 165 | 177 | | 189 | | 202 | | 261 | | | | | | |
| 39 | | 145 | | 172 | 180 | 189 | 204 | | 213 | | 228 | | 277 | | 279 | | | | |
| 44 | | | | | | 160 | | | | 189 | | 204 | | 254 | | 261 | | | |
| 48 | | | | | | 198 | | | | 230 | 241 | 256 | 302 | 320 | | | | | |
| 48 | | | | | 272 | | | | 319 | | 355 | | 445 | | 412 | 413 | | | |
| 51 | | | | | 315 | | | | 370 | | 411 | | 512 | | 518 | | | | |
| 56 | | | | | | 247 | | | | 289 | | 318 | | 393 | | 402 | | 416 | |
| 60 | | | | | | 287 | | 315 | | 336 | | 367 | | 469 | | 465 | | 460 | 382 |
| 60 | | | | | 449 | | | | 494 | | 593 | | 610 | | 607 | | 562 | | |
| 64 | | | | | | 290 | | | | 345 | | 379 | | 479 | | 499 | | 479 | |
| 68 | | | | | | 406 | | | | 485 | | 542 | | 672 | | 691 | | 683 | |
| 75 | | | | | | | | | 616 | | 677 | | 802 | | 803 | 810 | | | |
| 80 | | | | | | | | | | 488 | | 538 | | 655 | | 657 | | 658 | |
| 87 | | | | | | | | | 735 | | 792 | | 922 | | 938 | 932 | | | |
| 92 | | | | | | | | | | 621 | | 690 | | 823 | | 822 | | 840 | |
| 99 | | | | | | | | | | | 1059 | | 1239 | | 1251 | 1268 | 1283 | | |
| 120 | | | | | | | | | | | | 1173 | | 1356 | | 1379 | | 1387 | |
| 120 | | | | | | | | | | | 1260 | | 1470 | | 1484 | 1495 | 1529 | | |

Available with Flanged or Cylindrical nut

## URS - Ø60 to Ø210 mm

## Lead -15 to 50 mm

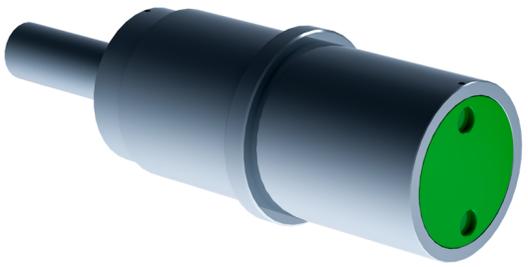
### Ultra High Capacity Roller Screws (URS) - Dynamic load capacity (kN)

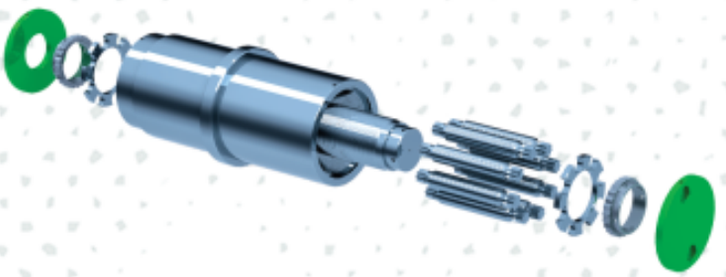
| Nominal diameter d0 (mm) \ Lead [ mm ] | 15 | 20 | 25 | 30 | 35 | 40 | 50 |
|---|---|---|---|---|---|---|---|
| 60 | 766 | 763 | 725 | 733 | | | |
| 75 | 997 | 1009 | 1026 | 1019 | | | |
| 87 | 1204 | 1219 | 1246 | 1235 | | | |
| 99 | 1436 | 1462 | 1475 | 1496 | 1513 | | |
| 111 | 1609 | 1620 | 1653 | 1658 | 1690 | | |
| 120 | 1924 | 1953 | 1967 | 1988 | 2024 | 2031 | |
| 135 | 2059 | 2096 | 2119 | 2148 | 2148 | 2157 | 2168 |
| 150 | 2424 | 2475 | 2503 | 2511 | 2554 | 2553 | 2569 |
| 180 | | 3497 | | 3572 | | 3620 | 3710 |
| 210 | | | | 4218 | | 4218 | 4243 |

Available with Flanged or Cylindrical nut

ALT BEARINGS

# Inverted Roller Screws: IRS Range





The IRS is based on same principle as the SRS design and has the same global performances. The rollers do not move axially along the shaft and stroke is travelled within a longer nut.

This concept follows specific design rules which enable higher capacity ratings with smaller leads which consequently reduces the driving torque, optimizes compactness and makes a direct guiding of the shaft possible.

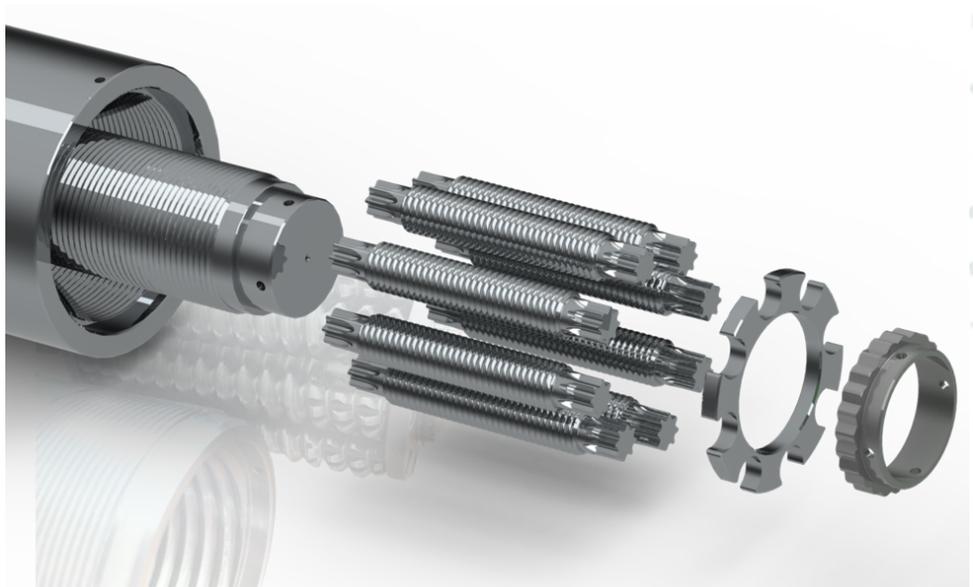
**IRS - Ø9 to Ø80 mm**

**Lead -1 to 20 mm**

**Inverted Roller Screw (IRS) - Dynamic load capacity (kN)**

| Nominal diameter d0 (mm) \ Lead [ mm ] | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 14 | | | | | | | | | | | | | |
| 12 | 16 | 18 | | | | | | | | | | | | |
| 14 | 16 | 19 | | | | | | | | | | | | |
| 15 | 27 | 32 | 33 | | | | | | | | | | | |
| 18 | 42 | 49 | 54 | | | | | | | | | | | |
| 21 | | 63 | 70 | 75 | | | | | | | | | | |
| 24 | | 82 | 91 | 96 | 102 | | | | | | | | | |
| 27 | | 90 | 100 | 106 | 111 | | | | | | | | | |
| 28 | | 66 | 72 | 78 | 80 | 86 | | | | | | | | |
| 30 | | 120 | 133 | 142 | 149 | 155 | | | | | | | | |
| 36 | | 103 | 113 | 122 | 127 | 130 | 136 | | | | | | | |
| 39 | | | 185 | 200 | 209 | 219 | 227 | 232 | | | | | | |
| 44 | | | 155 | 166 | 176 | 183 | 187 | 193 | 200 | | | | | |
| 48 | | | 270 | 290 | 305 | 320 | 329 | 339 | 346 | 355 | | | | |
| 51 | | | 300 | 321 | 338 | 352 | 366 | 380 | 392 | 394 | | | | |
| 56 | | | | 248 | 262 | 274 | 285 | 291 | 300 | 310 | 324 | | | |
| 60 | | | | 278 | 295 | 307 | 317 | 326 | 339 | 344 | 363 | | | |
| 64 | | | | 297 | 313 | 329 | 341 | 356 | 361 | 371 | 389 | 409 | | |
| 70 | | | | | | 274 | | 294 | | 314 | 324 | 342 | 346 | |
| 75 | | | | | | 306 | | 330 | | 344 | 367 | 381 | 387 | |
| 80 | | | | | | 421 | | 454 | | 483 | 505 | 505 | 524 | 609 |

**Available with Flanged or Cylindrical nut**



ALT ROLLER SCREWS

# Differential Roller Screws: DRS Range

The DRS is designed for extremely high precision applications, where a high resolution is required.

**DRS - Ø16 to Ø44 mm**

**Lead 0,1 to 0,8 mm**

### Differential Roller Screw
### Dynamic load capacity Ca (kN)

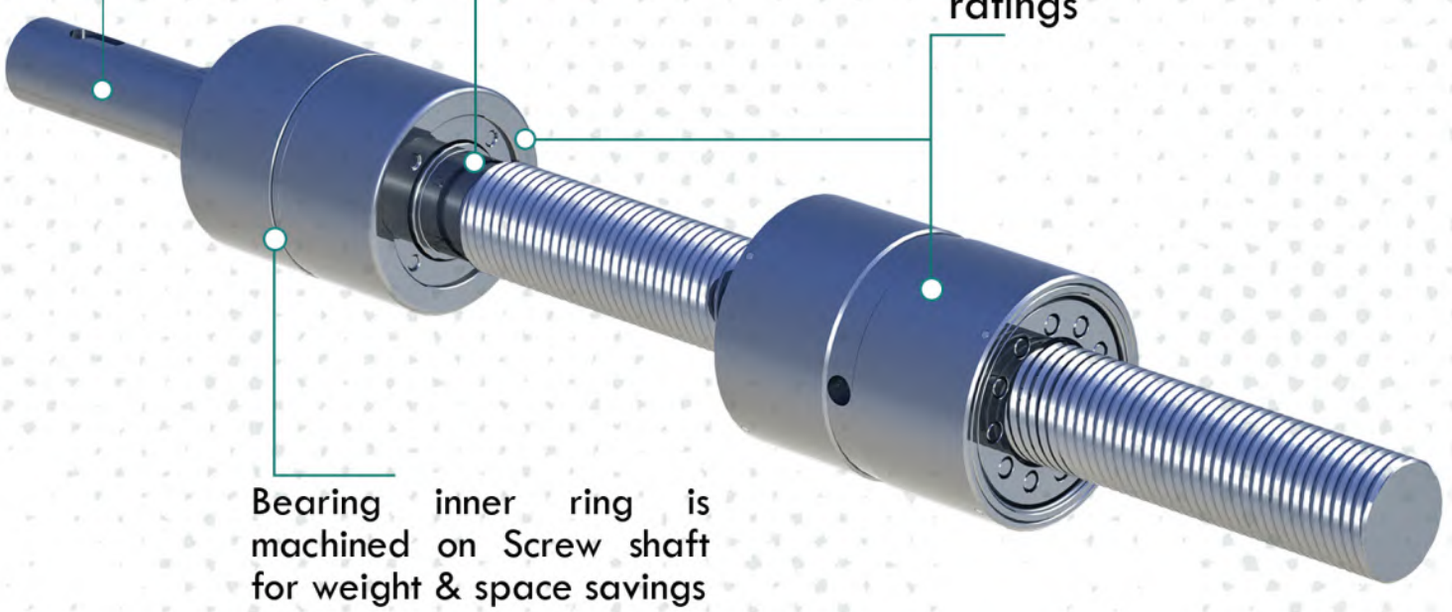
| Nominal diameter d0 (mm) | Lead [ mm ] 0.2 | 0.4 | 0.6 |
|---|---|---|---|
| 16 | 17 | 20 | 23 |
| 20 | 33 | 39 | 45 |
| 24 | 47 | 55 | 63 |
| 28 | 53 | 63 | 72 |
| 32 | 56 | 66 | 76 |
| 36 | 61 | 72 | 82 |
| 40 | 91 | 108 | 123 |
| 44 | 103 | 122 | 140 |

**Available with Flanged or Cylindrical nut**



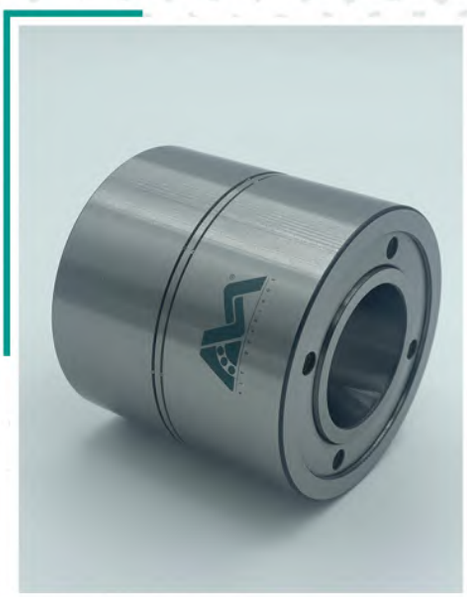
ALT BEARINGS

# Roller Screw with integrated Bearing
# HRA Range




**Combine the New Roller Screw design with a Herringbone Roller Bearing to get the highest Power Density.**

## For both Standard and Inverted Roller Screws



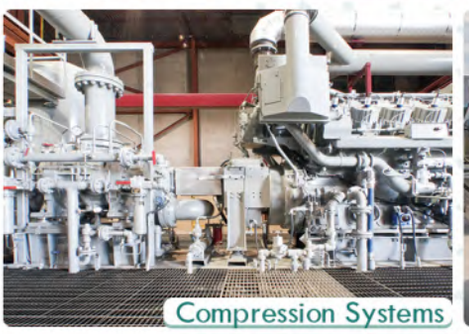
# Unlimited Applications


New aeronautics


Space Industry


Drones


Oil & Gas

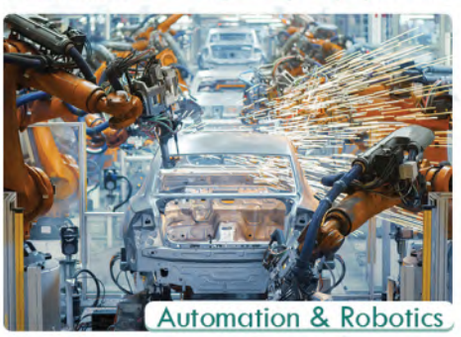

Compression Systems


Defense

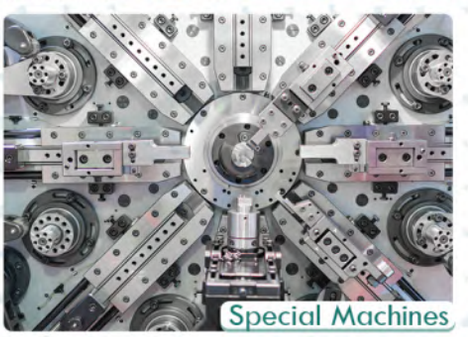

Off Highway Equipment


Injection Molding Machines


Linear Actuation


Automation & Robotics


Urban Air Mobility


Special Machines

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