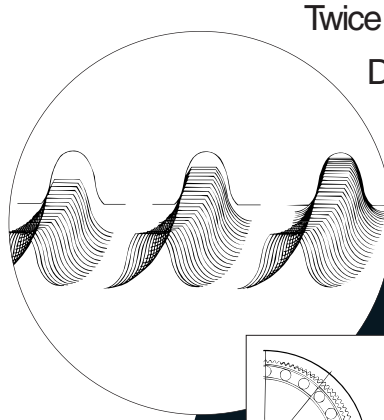




# harmonic drive gearing



As the world's largest manufacturer of harmonic drive gearing and motion control products, we offer the machine and motion control design engineer the widest choice of harmonic drive gearing solutions. We also offer our customers the most advanced technology, such as our patented "S" tooth profile, hollow shaft units and gear ratios as low as 30:1.



Twice the Torque

Double the Life

Twice the Stiffness

**Patented "S" Tooth Profile**

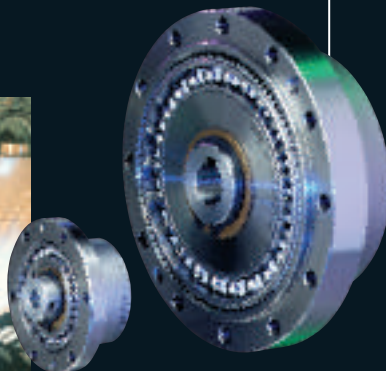
HD Systems has improved the performance of harmonic drive gearing by designing a highly sophisticated tooth profile with benefits unequalled by conventional harmonic drive gearing. Our patented "S" tooth profile offers twice the torque, double the life and twice the stiffness, all in a smaller package, while maintaining accuracy, efficiency and zero backlash.

# H a r m o n i c

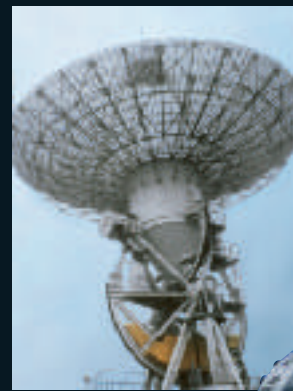
## Component Sets:



Offering maximum versatility for the design engineer, a component set is the basic gearing mechanism of a harmonic drive product. It can be incorporated into a customer's housing to achieve a minimum package size. Cup, Hollow Shaft and Pancake Type Component Sets are available in several sizes and gear ratios.



## COMMUNICATIONS



## Gearheads:

All the benefits of harmonic drive gearing can be quickly incorporated into your designs by selecting one of our harmonic drive gearheads. We save you the time and effort of designing, manufacturing and assembling a suitable housing and output shaft support structure for our component sets. Miniature and hollow shaft units are available in a wide range of gear ratios.



## ROBOTICS



HIGH TORQUE CAPACITY



WIDE RANGE OF GEAR RATIOS

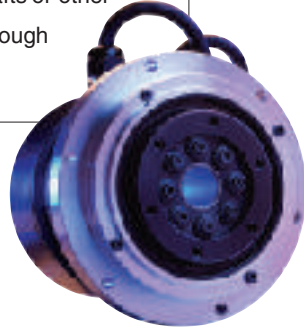
# HOLLOW SHAFT



### Hollow Shaft:

- Hollow Shaft up to 70mm
- Zero Backlash
- Compact Design
- 50:1 thru 160:1
- Enables engineersto

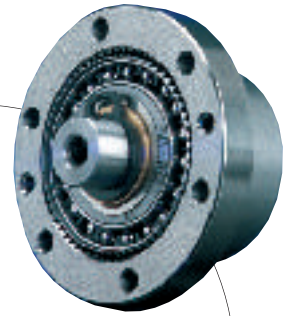
pass cables, shafts or other  
components directly through  
the center of the gear.



30:1 NOW AVAILABLE

### New 30:1 Ratio

- Zero Backlash
- High speed applications
- Lowest gear ratio available for harmonic drive gearing
- Only available from HD Systems



# Drive Gearing

### Actuators:



By offering a complete actuator package, HD Systems has provided the design engineer with matched, power compatible components and the rigid mechanical structure required for high performance and servo stiffness. Harmonic drive actuators are an integral package consisting of an encoder, servo motor and a precision harmonic drive gearhead. These actuators are used in highly demanding servo systems, and can provide precise motion and high torque capacity in very compact packages.



MACHINE TOOL



SEMICONDUCTOR



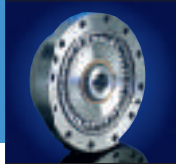
We Have The Solution



# GEARING

## CUP

CSF

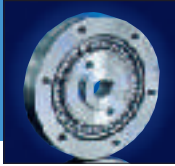


HDUC

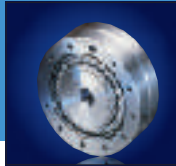


## PANCAKE

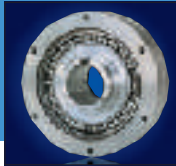
HDUF



HDUR



HDUA



1:1



## GEARHEADS

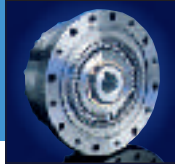
RHS



HDUC-MINI



CSF-2UH



SHF-2UJ

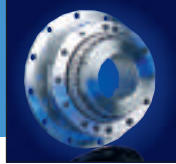


PLANETARY

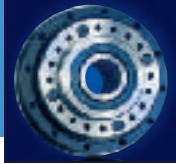


## HOLLOW SHAFT GEARING

SHF-2AGR



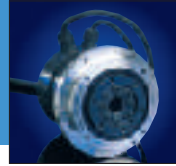
SHF-2UH



## MOTION CONTROL

### HOLLOW SHAFT ACTUATORS

FHA



### BRUSH DC SERVO ACTUATORS

RH MINI



RFS



RHS



### BRUSHLESS DC SERVO ACTUATORS

RS MINI



RSS

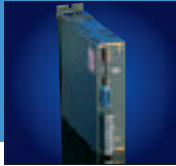


RKS



## CONTROLLERS

HS



HA



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[www.HDSystemsInc.com](http://www.HDSystemsInc.com)

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