

# DAEHYUN OTOVA

## DAEHYUN OTOVA SERIES

PNEUMATIC & HYDRAULIC SCOTCH YOKE ACTUATORS



### NEXT GENERATION ACTUATION LEADER

**DAEHYUN** Precision Ind.Co.,Ltd  
Industrial Technologies

대헌정밀공업(주) / 대헌산업기술

Office : 2nd Floor No.203 36 Banpo-daero 14  
Seocho-gu, Seoul, Korea

TEL +82-2-585-0027  
FAX +82-2-585-4070

Factory : 325-26, Seokpo-ro, Jangan-myeon  
Hwaseong-si, Gyeonggi-do, Korea, 1

E-MAIL sales@e-dae Hyun.com  
HOME PAGE <http://www.e-dae Hyun.com>

**kpc**

KAB-QC-04  
KSQ ISO 9001  
품질경영시스템인증기업

# DAEHYUN OTOVA Series Pneumatic Heavy-Duty Scotch Yoke Actuators

## Introduction

DAEHYUN OTOVA Series scotch yoke actuators are designed to operate ball, butterfly and plug valves requiring a rotary, quarter-turn movement for either on/off or modulating duty.

DAEHYUN OTOVA Series actuators provide up to 75,000 Nm of heavy-duty torque. Enhanced performance is achieved by using a superior scotch yoke support design that significantly reduces transverse loads.

DAEHYUN OTOVA Series actuators feature modular construction to minimize repair time and initial cost while maximizing process availability.

RVHD(Rotary Vane Hydro Double Acting) Series is designed to get great power in small space. Elaborately designed and manufactured products can be installed, operated, adjusted, inspected, maintained and dismantled on the manufacturer's website.

## Features

### Operating Pressure

Pneumatic up to 12 bar (175 psi)

Hydraulic up to 210 bar (3,000 psi)

### Torque Output

Up to 600,000 Nm (5.3 million lbf.in)

### Temperature Ranges

Standard: -20 to 60 °C (-4 to 140 °F)

High: -20 to 160 °C (-4 to 320 °F)

Low: -40 to 160 °C (-40 to 320 °F)

Extreme Low: -60 to 160 °C (-76 to 320 °F)

### Efficiency and Long Life

Minimum friction is ensured by electroless nickel-plated cylinders and bronze sliding blocks on the torque arm.

A dynamic floating piston seal further reduces friction and avoids stick-slip effect, even after prolonged periods without operation.

### Environmental Protection

O-ring sealing provides protection certified to IEC IP66M & IP67M.

### Corrosion Resistance

Extended service life provided by carbon steel, electroless nickel-plated cylinders and chromium plated piston rod.

### Key Certifications (Awaiting decision or settlement)

SIL 3 certified in accordance with IEC 61508

Available in compliance with PED 97/23/EC Certified according to ATEX 94/9/EC Ex II 2GD c IIC T6

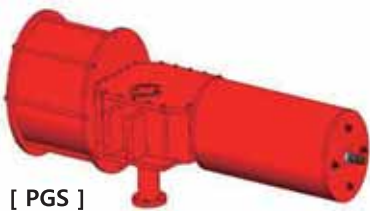
Actuator spring design in compliance with EN 13906



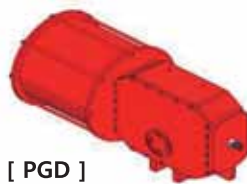
[ PCS ]



[ PCD ]



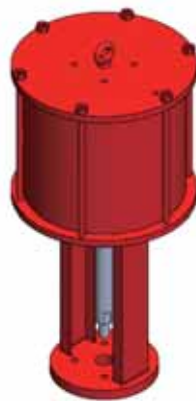
[ PGS ]



[ PGD ]



[ PLS ]



[ PLD ]



[ HLD ]



[ HGS ]

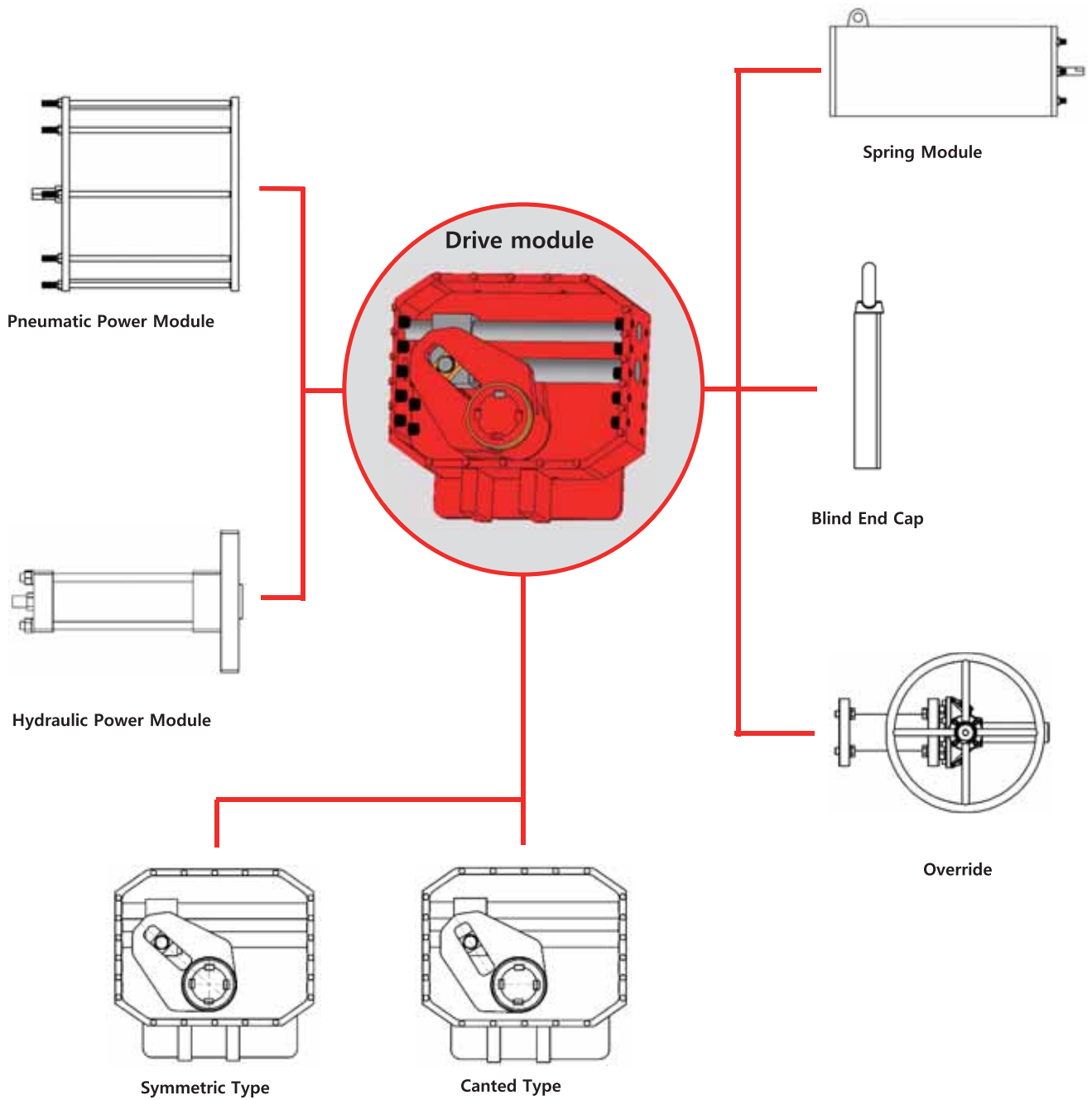


[ RVHD ]

## DAEHYUN OTOVA Series Modular Design

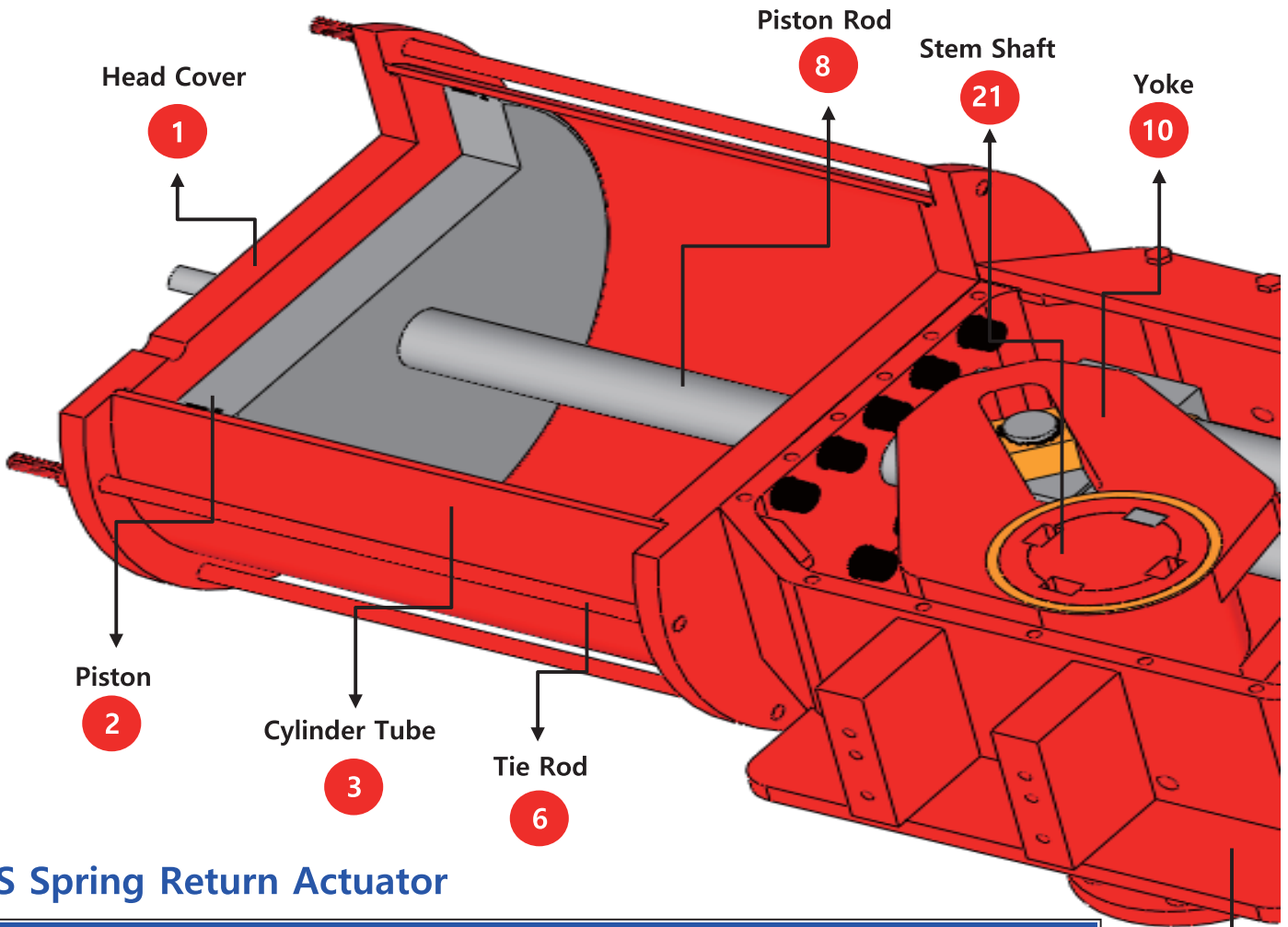
The PGS/PGD Series modular design consists of spring, power and drive modules. The modules have been designed for easy disassembly and this allows the actuator to be quickly and easily converted from double acting to single acting configuration, or for the addition of ancillaries such as a manual override unit.

The modular design allows these modifications to be performed without removing the actuator from the valve.



## Safety Design

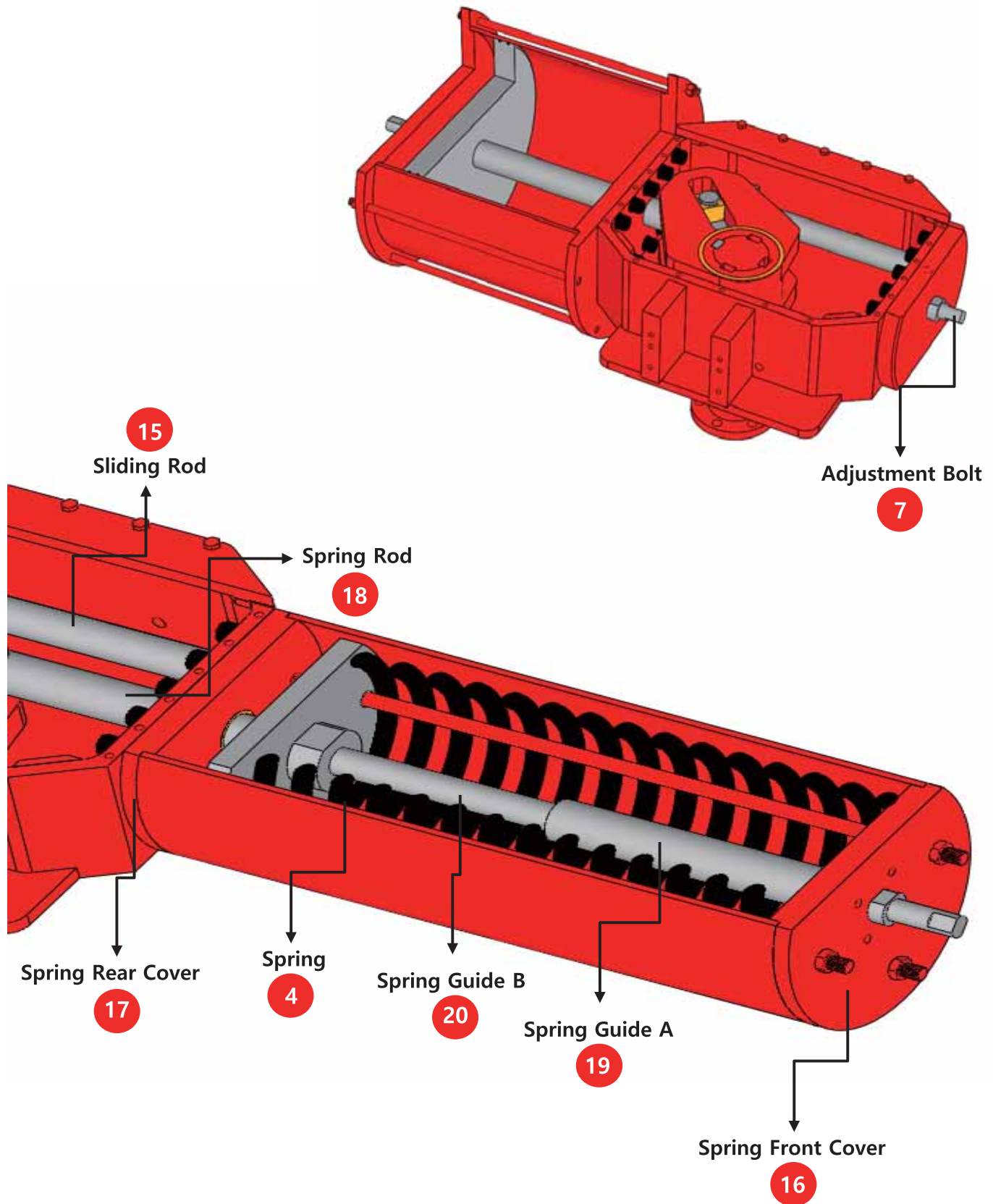
Spring-return units can be assembled to provide failsafe operation in either direction. The spring-return module is inherently safe since it can only be removed from the centrebody after all spring forces have been released. Centrebodies incorporate a pressure relief valve.



## PGS Spring Return Actuator

PGS Standard Materials of Construction					
ITEM	DESCRIPTION	MATERIAL	ITEM	DESCRIPTION	MATERIAL
1	Head cover	Alloy Steel	12	Yoke Pin	Alloy Steel
2	Piston	Alloy Steel	13	Front Cover	Alloy Steel
3	Cylinder Tube	Alloy Steel	14	Sliding Block	Alloy Steel
4	Spring	Alloy Steel	15	Sliding Rod	Alloy Steel
5	Main Body Cover	Alloy Steel	16	Spring Front Cover	Alloy Steel
6	Tie Rod	Alloy Steel	17	Spring Rear Cover	Alloy Steel
7	Adjustment Bolt	Alloy Steel	18	Spring Rod	Alloy Steel
8	Piston Rod	Alloy Steel	19	Spring Guide A	Alloy Steel
9	Spring Tube	Alloy Steel	20	Spring Guide B	Alloy Steel
10	Yoke	Casting Steel	21	Stem Shaft	Alloy Steel
11	Main Body	Casting Steel	22	Key	Alloy Steel





# DAEHYUN OTOVA Series Optional Features

## Manual Override

A dependable manual override facility is an important part many valve/actuator applications. Daehyun has a variety of override options available to meet virtually any requirement. Available options include open or enclosed jackscrews in both gear reducer and declutchable versions, as well as a number of hydraulic override solutions.



## Control Systems

Daehyun offers a selection of standard and custom controls packages for most applications to fill customers needs for short lead-time, low-cost solutions.



## Fire Proofing

Our extensive knowledge of the valve and actuator industry in oil and gas, refinery, petrochemical applications enables us to provide various fire protection solutions to allow the critical actuator and related control systems to continue operating for a period of time in fire temperatures of 1100 deg C in accordance with UL1709.



# DAEHYUN OTOVA Series Model Numbering

**PGS - 130 - 485 - 000 - C3 - 000 - DA - SM - S - 0**

Series No.	Code No. MA,ST CYL Dia	Bore Size Dia.	Spring No.	Base Code	Acting	Moun-ting/ Yoke	Temper. Trim	Coating
PLS		022	C1	213	DA			0 : Standard
PLD	065 - 335	035	C2		DD		S : Standard	P : Primer Only
PCS	065 - 435	050	C3		SRCW	ISO	L : LowTemp.	
PCD	130 - 435	060	C4		SRCW	Symme- trical : SM	H : High Temp.	
PGS	130 - 485	070	C5					
PGD	070 - 280	100	C6			ISO		
RVHD	060 - 320	115				Canted :		
HLD	105 - 435	150				CA		
HGS	312 - 435	180						

## Seals Material

Code	Material	Temperature Range	Climate Classification According to IEC60721
B	Buna	Std Temp : -29°C to +100°C(-20°F to 212°F)	Tropical and Arid
V	Viton	Hi Temp : up to +160°C(320°F)	
S	Silicon	Low Temp : down to -40°C(-40°F)	Temperate
Z	Other	Special Applications - Consult Factory	Cold & Polar

\* Viton is a registered trademarks of E. I. du Pont de Nemours

## Manual Override

Suffix	Description	Actuator Model								
		PLS	PLD	PCS	PCD	PGS	PGD	RVHD	HLD	HLS
-JL	JackscREW Light HandWheel	-	-	-	-	-	-	-	-	-
-JS	Enclosed Jack- screw Handwheel	-	-	-	-	-	-	-	-	-
-BG	Bevel Gear Hand Wheel	-	-	-	-	-	-	-	-	-
-HP	Hydraulic Manual Hand Pump	-	-	-	-	-	-	-	-	-





# Test Equipment



High Pressure Test



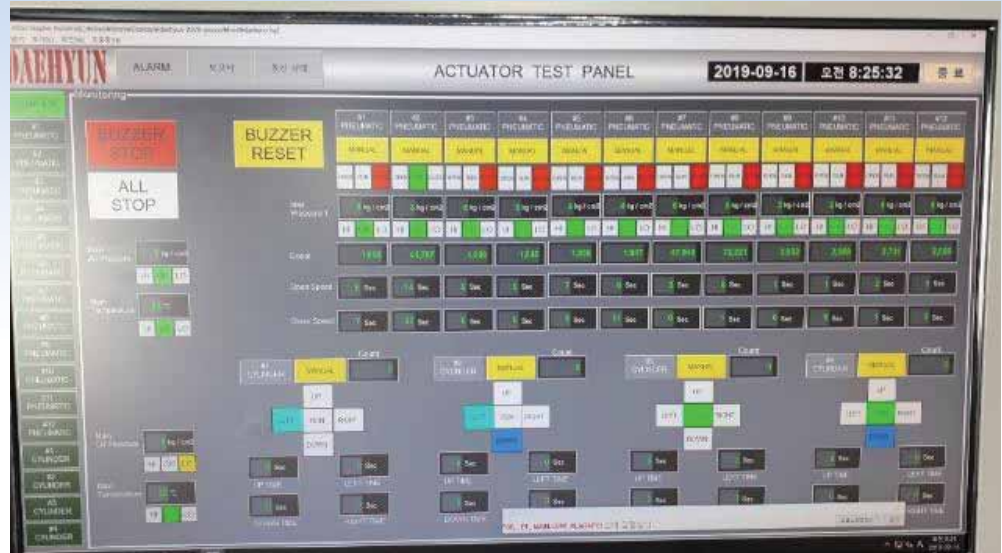
5K Nm Torque Tester



100K Nm Torque Tester



RVHD



Test System

If you are unsure of your needs, a sales representative will be happy to assist you in finding the right solution. Call us today and let's work the problem.

DAEHYUN also provides valve actuator training at our facility or yours

대리점



**DAEHYUN** Precision Ind.Co.,Ltd  
Industrial Technologies

대현정밀공업(주) / 대현산업기술

Factory : 325-26, Seokpo-ro, Jangan-myeon  
Hwaseong-si, Gyeonggi-do, Korea, 1

Office : 2nd Floor No.203 36, Banpo-daero 14  
Seocho-gu, Seoul, Korea

TEL +82-2-585-0027

FAX +82-2-585-4070

E-MAIL sales@e-dae Hyun.com

HOME PAGE <http://www.e-dae Hyun.com>