ALLTORQUE® 浙江鼎锋 CE Ex

Patent No. : (ZL201210050534. 6)

Model Guide

DFA25 - 350 - S - 5 - P - HY - FC

1. Actuator Size : DFA 16 ~ DFA35
2. Cylinder Size : 300 ~ 700
3. Actuator Type : DA-Double Acting,
   S-Spring Return
4. Spring Module Working Pressure : 4/5 bar, 5/6bar
5. Working Temp. : P ~Normal Temp. NBR O-ring
   P1~High Temp. VITON O-ring
   P2~Low Temp. SILICONE O-ring
6. Accessories : HW-Jack Screw Manual Override
   EX-Extend Travel Stop
   HY-Hydraulic Manual Override
7. Air failure position(Single Action Only):
   FC–Failure Close
   FO–Failure Open

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ALLTORQUE® CE Ex

Patent No. : (ZL201210050534. 6)

DFA Series Scotch Yoke Pneumatic Actuator

(Spring module Output torque adjustable)

Advantages

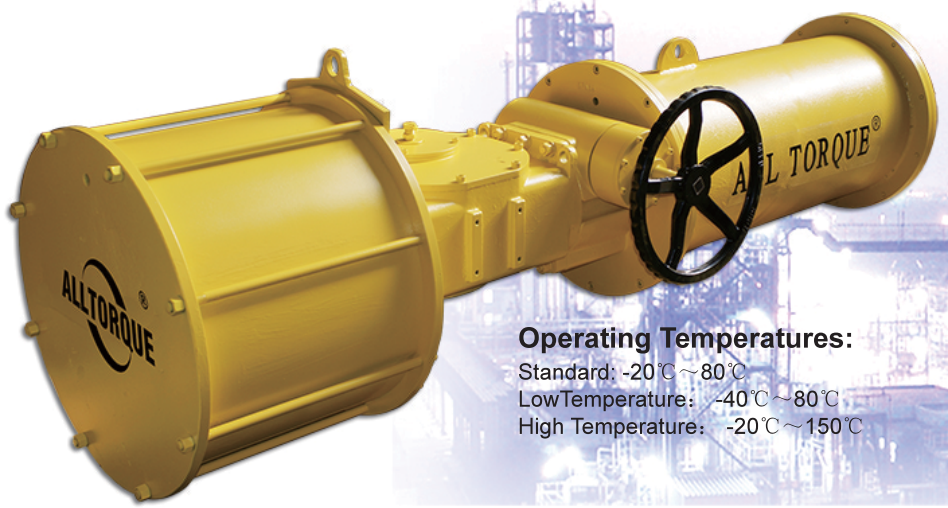
Water Ingress Protected
O-rings are fitted on bodies,caps and so on,this ensure water ingress protected.

ISO Valve Mounting
The DFA Series actuators interface meets ISO standard,and meets the dimensional requirements of ISO defined for each torque range.

Standardization
The shaft driven accessory interface conforms to NUMAR and is identical on all DFA Series,allowing standardization of accessory mounting hardware and installation practices.

Wear Resistant
The guide rod and piston rod have an advanced surface treatment,which combined with self-lubricating bearings,provides superior wear resistance and extends the life of all sliding components.

High Efficiency
The piston rod and guide block connection superior surface finishes and self-lubricating bearings maximize input energy transfer directly to the valve stem,efficiency is further enhanced by the tension-loaded spring ,minimizing radial loads on the piston rod.



Operating Temperatures:
Standard: -20℃～80℃
LowTemperature： -40℃～80℃
High Temperature： -20℃～150℃

Spring module Output torque adjustable

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Distinguished Characteristics
Patented spring module, output torque adjustable， Springs replaceable，fit different type of valve's torque.

Corrosion Resistant
The DFA series actuators incorporate over three stages of internal and external coatings to resist severe weather,chemical and petroleum environments. The inner surface of cylinder is coated by PTFE,enhanced corrosion resistant and self-lubricating.

Modular Design
DFA series actuators have available,field-serviceable drive,power,spring and override modules,the modules are removable,serviceable and interchangeable when mounted to the valve. Modules are available for separate purchase to reduce spare parts inventory.

Safe Spring Module
To ensure the safety of personnel during installlation and maintenance,the spring module has been designed so that it can only be removed from the power module with the spring in the fully extended position. This prevents accidental release of the spring force, protecting personnel from injury and the actuator from accidental damage.

Torque outputs(guaranteed)
Double acting: 1,417-31,640Nm
Spring return end torques:1,700-9,725Nm

Operating Pressures
Pneumatic:3-7Bar
Hydraulic:100Bar(Over 100bar hydraulic pressure is available upon request)

Spring module Output torque adjustable

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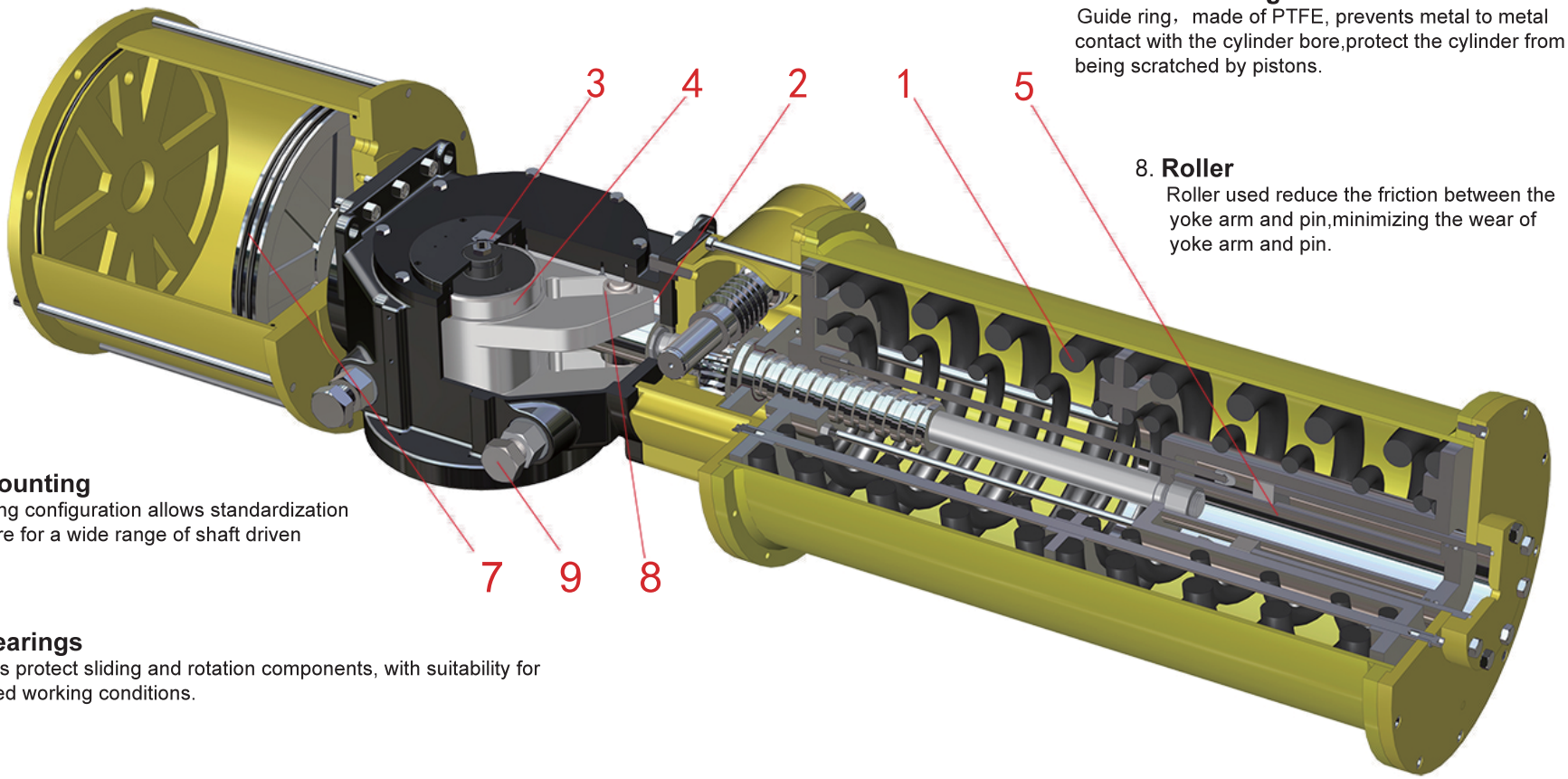
Design Features Offer Unique Benefits

1. **Precompressed spring unit**
Precompressed spring unit easy to exchange, to ensure safe operation.

2. **Reduced Wear**
Connects the piston rod with the guide block,compensating for side load deflection and reducing wear on rod,bearings and seals.

6. **Easy lifting**
DFA series actuators equipped with lifting eyes for safe actuator handing during shipping,installation and removal.

7. **PTFE Guide Ring**
Guide ring， made of PTFE, prevents metal to metal contact with the cylinder bore,protect the cylinder from being scratched by pistons.



8. **Roller**
Roller used reduce the friction between the yoke arm and pin,minimizing the wear of yoke arm and pin.

3. **Standardized Mounting**
The NAMUR mounting configuration allows standardization of mounting hardware for a wide range of shaft driven accessories.

4. **Replaceable Bearings**
Replaceable Bearings protect sliding and rotation components, with suitability for either dry or lubricated working conditions.

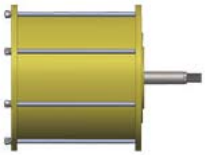
5. **Hydraulic Overrides for Spring Module**
Inside hydraulic override cylinder module for spring-return models does not increase actuator length.

9. 80°-100° Traval Adjustment
Bi-Directional Travel Stops integral to the actuator, the stops allow 80°-100°total travel adjustment.

Spring module Output torque adjustable ④

Modular Versatility

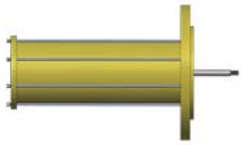
Blind End Cap

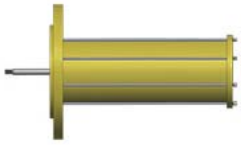


Spring exchangeable

Pneumatic Power Module

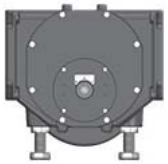
Spring Module with Patented Adjustable Output Torque and Integral Override gear operator.

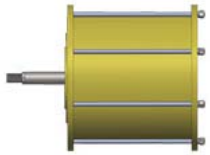




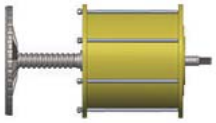
Hydraulic Power Module or Override for Hydaulic Actuators Module

Hydraulic Power Module or Override for Hydaulic Actuators Module



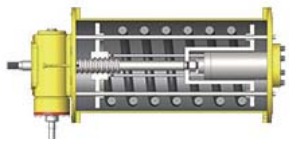


Pneumatic Power Module



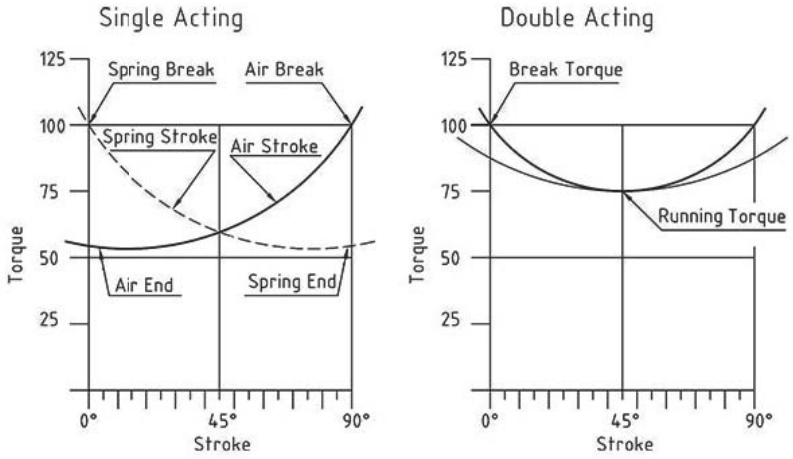
Spring Module with Patented Adjustable Output Torque

Pneumatic Power Module with Extended Travel Stops

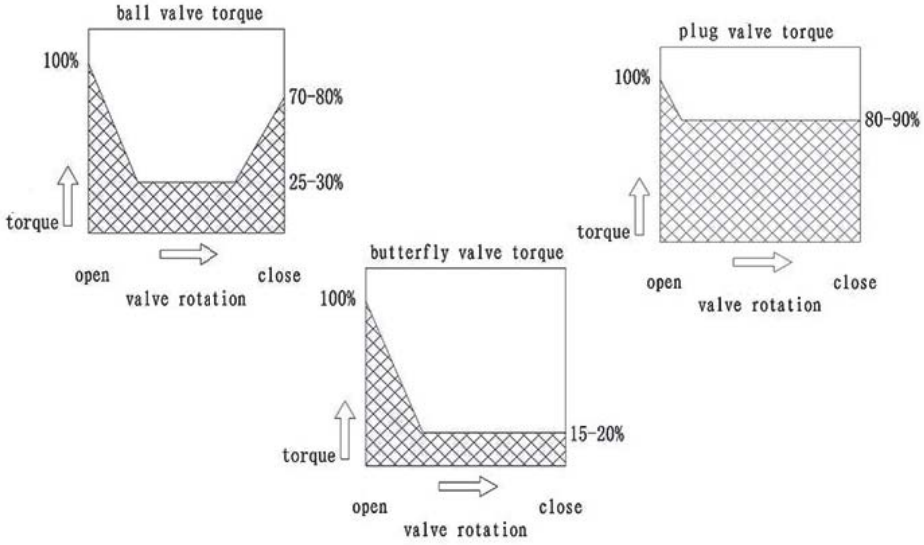


Spring Module with Patented Adjustable Output Torque and Integral Override Hydraulic Cylinder

Torque Characteristics



Ball Valve,Butterfly Valve,Plug Valve Torque Characteristics



Spring module Output torque adjustable

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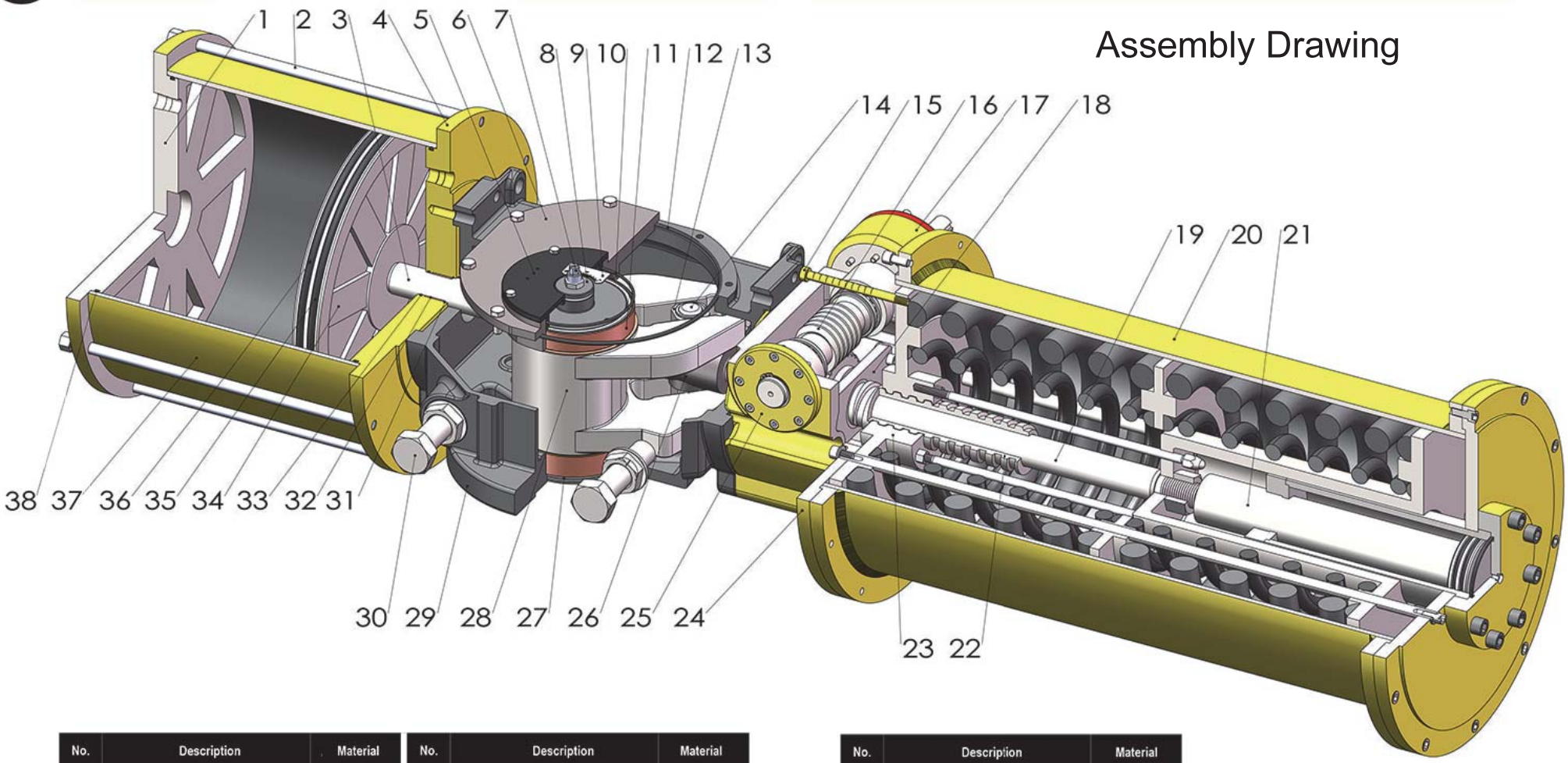
Assembly Drawing



No.	Description	Material
1	Cylinder End Cap	QT500-7
2	Stud	C45
3	Piston Rod	Alloy Steel
4	Cylinder End Cap	QT500-7
5	Up Cover	HT200
6	Cover	QT500-7
7	Indicator shaft	C45
8	Small Cover	HT200
9	Indicator Board	Al
10	O-ring	NBR

No.	Description	Material
11	Bearing	H62
12	O-ring	NBR
13	Roller	GCr15
14	Pin	GCr15
15	torque indicator pin	45
16	Worm	45
17	Energy Saving Unit	/
18	Supporting Seat	45
19	Tension Rod	45
20	Spring Module	/

No.	Description	Material
21	Hydraulic Module	/
22	Lead Screw	C45
23	Spring Seat	C45
24	End Cap	Carbon Steel
25	End Cap	C45
26	Guide Block	QT500-7
27	O-ring	NBR
28	Yoke	Carbon Steel
29	Body	Carbon Steel
30	Ajust Bolt	C45+Ni

No.	Description	Material
31	Circlip	65Mn
32	Bearing	H62
33	O-ring	NBR
34	Piston	Carbon Steel
35	O-ring	NBR
36	Guide Ring	PTFE
37	Cylinder	C20
38	O-ring	NBR

Torque Sheet

Spring Return Acting （Air Pressure 3bar） N.m

Model	Max Torque of Drive Module	Spring break	Spring end	Air break	Air end
DFA16-250	4,000	1,010	673	961	640
DFA16-300		1,436	957	1,366	911
DFA16-350		1,937	1,292	1,843	1,229
DFA25-350	8,000	2,445	1,630	2,326	1,551
DFA25-400		3,151	2,100	2,997	1,998
DFA25-450		3,945	2,630	3,753	2,502
DFA30-450	16,000	4,836	3,224	4,600	3,067
DFA30-500		5,919	3,946	5,630	3,753
DFA30-550		7,112	4,742	6,766	4,510
DFA35-550	32,000	9,226	6,151	8,776	5,851
DFA35-600		10,916	7,277	10,383	6,922
DFA35-700		14,721	9,814	14,003	9,335

Spring Return Acting （Air Pressure 4bar） N.m

Model	Max Torque of Drive Module	Spring break	Spring end	Air break	Air end
DFA16-250	4,000	1,347	898	1,281	854
DFA16-300		1,915	1,277	1,822	1,214
DFA16-350		2,583	1,722	2,457	1,638
DFA25-350	8,000	3,260	2,173	3,101	2,067
DFA25-400		4,201	2,801	3,996	2,664
DFA25-450		5,261	3,508	5,005	3,336
DFA30-450	16,000	6,448	4,298	6,133	4,089
DFA30-500		7,892	5,262	7,507	5,005
DFA30-550		9,483	6,322	9,021	6,014
DFA35-550	32,000	12,085	8,057	11,496	7,664
DFA35-600		14,299	9,533	13,601	9,068
DFA35-700		19,283	12,856	18,343	12,228

*Note: The output torque of the patented spring module is adjustable within a certain torque range.
Please contact our Sales Representative if you need more details.

Spring Return Acting （Air Pressure 5bar） N.m

Model	Max Torque of Drive Module	Spring break	Spring end	Air break	Air end
DFA16-250	4,000	1,684	1,123	1,602	1,068
DFA16-300		2,394	1,596	2,277	1,518
DFA16-350		3,229	2,153	3,071	2,048
DFA25-350	8,000	4,076	2,717	3,877	2,585
DFA25-400		5,251	3,501	4,995	3,330
DFA25-450		6,576	4,384	6,255	4,170
DFA30-450	16,000	8,059	5,373	7,666	5,111
DFA30-500		9,865	6,577	9,384	6,256
DFA30-550		11,854	7,903	11,276	7,517
DFA35-550	32,000	15,376	10,251	14,626	9,751
DFA35-600		18,192	12,128	17,305	11,537
DFA35-700		24,535	16,357	23,338	15,559

Spring Return Acting （Air Pressure 6bar） N.m

Model	Max Torque of Drive Module	Spring break	Spring end	Air break	Air end
DFA16-250	4,000	2,021	1,347	1,922	1,282
DFA16-300		2,873	1,916	2,733	1,822
DFA16-350		3,875	2,583	3,686	2,457
DFA25-350	8,000	4,891	3,261	4,653	3,102
DFA25-400		6,302	4,201	5,994	3,996
DFA25-450		7,892	5,261	7,507	5,004
DFA30-450	16,000	9,671	6,448	9,200	6,133
DFA30-500		11,839	7,893	11,261	7,508
DFA30-550		14,225	9,483	13,531	9,021
DFA35-550	32,000	18,128	12,086	17,244	11,496
DFA35-600		21,448	14,299	20,402	13,601
DFA35-700		28,925	19,284	27,514	18,343

Torque Sheet

双作用型 Double Acting　　N.m

Model	Max Torque of Drive Module	Air Pressure									
		3Bar		4 Bar		5 Bar		6 Bar		7 Bar	
		Break	Run	Break	Run	Break	Run	Break	Run	Break	Run
DFA16-250DA	4,000	1,642	977	2,190	1,302	2,738	1,628	3,286	1,954	3,834	2,279
DFA16-300DA		2,335	1,388	3,114	1,852	3,893	2,315	-	-	-	-
DFA16-350DA		3,150	1,873	4,200	2,497	-	-	-	-	-	-
DFA25-350DA	8,000	3,976	2,349	5,301	3,133	6,627	3,917	7,953	4,700	-	-
DFA25-400DA		5,123	3,027	6,831	4,037	8,539	5,047	-	-	-	-
DFA25-450DA		6,415	3,791	8,555	5,055	-	-	-	-	-	-
DFA30-450DA	16,000	7,863	4,651	10,484	6,203	13,104	7,753	15,726	9,304	-	-
DFA30-500DA		9,624	5,694	12,833	7,593	16,041	9,491	-	-	-	-
DFA30-550DA		11,565	6,842	15,420	9,123	-	-	-	-	-	-
DFA35-550DA	32,000	15,002	8,904	19,651	11,752	25,002	14,839	29,477	17,630	35,004	20,775
DFA35-600DA		17,749	10,535	23,250	13,906	29,581	17,557	34,875	20,859	-	-
DFA35-700DA		23,936	14,206	31,355	18,753	-	-	-	-	-	-

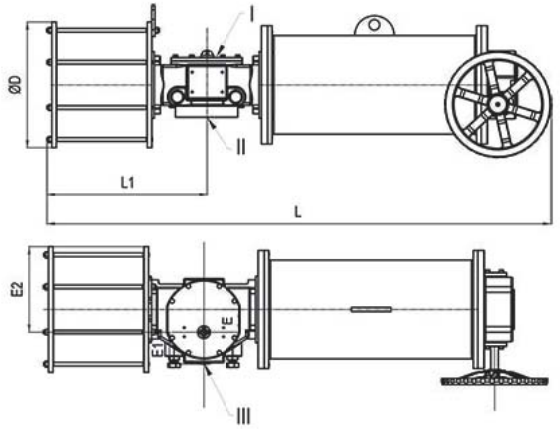
Dimension

Metric Unit：mm

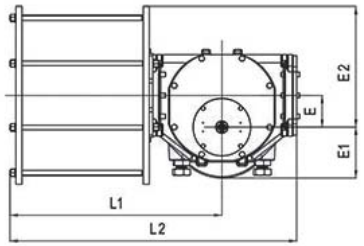
MODEL	D	E	E1	E2	H	L1	L2	L	M	D1	D2	n	M1	B	T	Air Connection
DFA16-250	310	75	105	230	107	507	682	1634	M6	80	165	4	M20	22	85.4	RC 1/2
DFA16-300	370	75	105	260	107	507	682	1634	M6	80	165	4	M20	22	85.4	RC 1/2
DFA16-350	420	75	105	285	107	507	682	1634	M6	80	165	4	M20	22	85.4	RC 1/2
DFA25-350	440	90	150	310	103	570	779	1862	M6	100	254	8	M16	28	106.4	RC 1/2
DFA25-400	490	90	150	335	103	570	779	1862	M6	100	254	8	M16	28	106.4	RC 3/4
DFA25-450	540	90	150	360	103	570	779	1862	M6	100	254	8	M16	28	106.4	RC 3/4
DFA30-450	540	110	176	380	137	700	947	1923	M8	120	298	8	M20	32	127.4	RC 3/4
DFA30-500	590	110	176	405	137	700	947	1923	M8	120	298	8	M20	32	127.4	RC 3/4
DFA30-550	650	110	176	435	137	700	947	1923	M8	120	298	8	M20	32	127.4	RC 3/4
DFA35-550	650	143	208	468	155	895	1205	2543	M8	160	356	8	M30	40	169.4	RC 3/4
DFA35-600	710	143	208	498	155	895	1205	2543	M8	160	356	8	M30	40	169.4	RC 1
DFA35-700	820	143	208	553	155	895	1205	2543	M8	160	356	8	M30	40	169.4	RC 1

Dimension

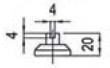
Spring Return DFA16/DFA25

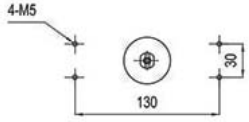


Double Acting

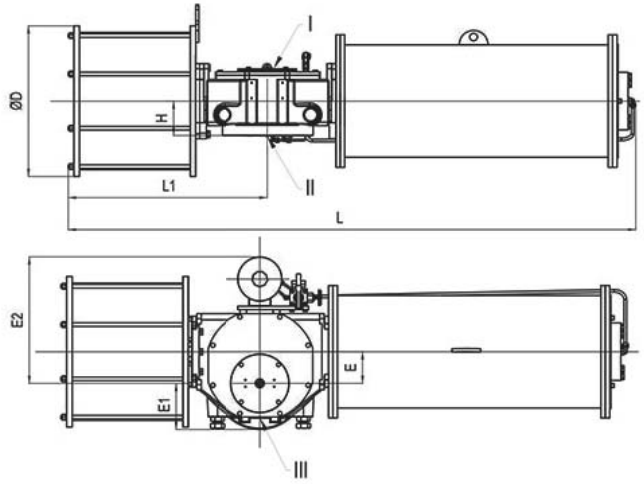


Detail I

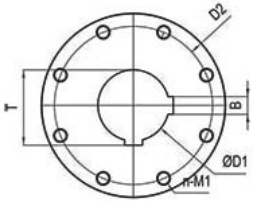




Spring Return DFA30/DFA35



Detail II



Detail III