

DYNABOX XL

Right angle
Servo gearheads
For heavy duty applications



Backlash down to 0,5 arc minute

DYNABOX XL

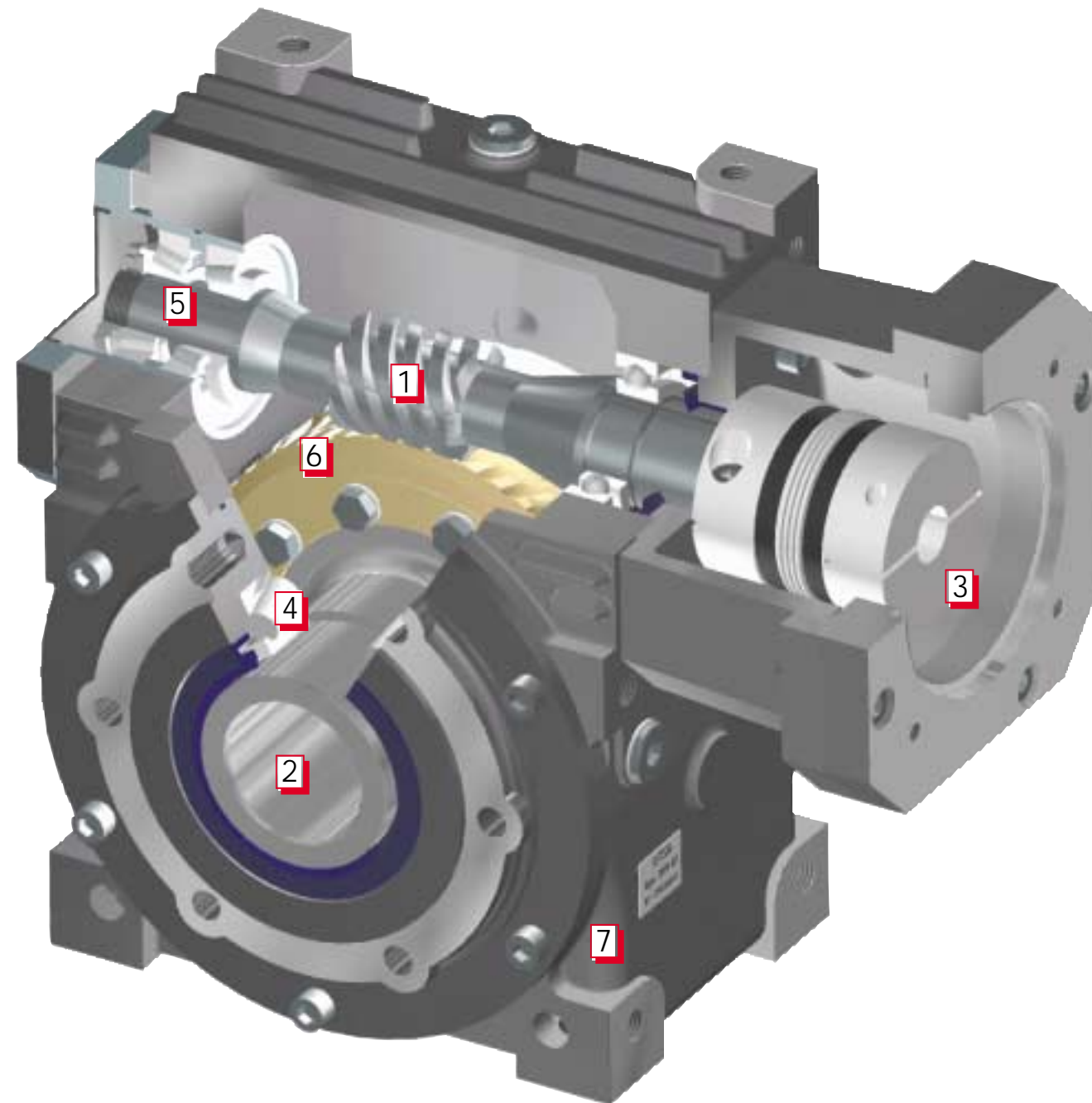


Torque up to
8000 Nm



GIRARD TRANSMISSIONS introduces :

DYNABOX XL



with 2 precision levels :

EXPERT : backlash < 0,5 arcminute
(adjustable)

MEDIUM : backlash < 5 arcminutes
(fixed)

- 1 Computer optimized gear contact pattern : less stress, longer life.
- 2 Keyless connection : reliable and backlash free connection with shrink disc.
- 3 Universal servo-kit : including high torsional stiffness coupling + flange.
- 4 Oversized taper roller bearings : provide very high permissible loads.
- 5 Constant input bearings preload design : 2 taper roller bearings + 1 floating ball bearings allowing temperature variations with same preload : higher input permissible speeds, longer life.
- 6 Centrifugally cast wheel ring : superior shock and wear resistance.
- 7 Cast iron housing

2 MOUNTING OPTIONS



Hollow shaft



Single output shaft

DYNABOX XL benefits

Low backlash

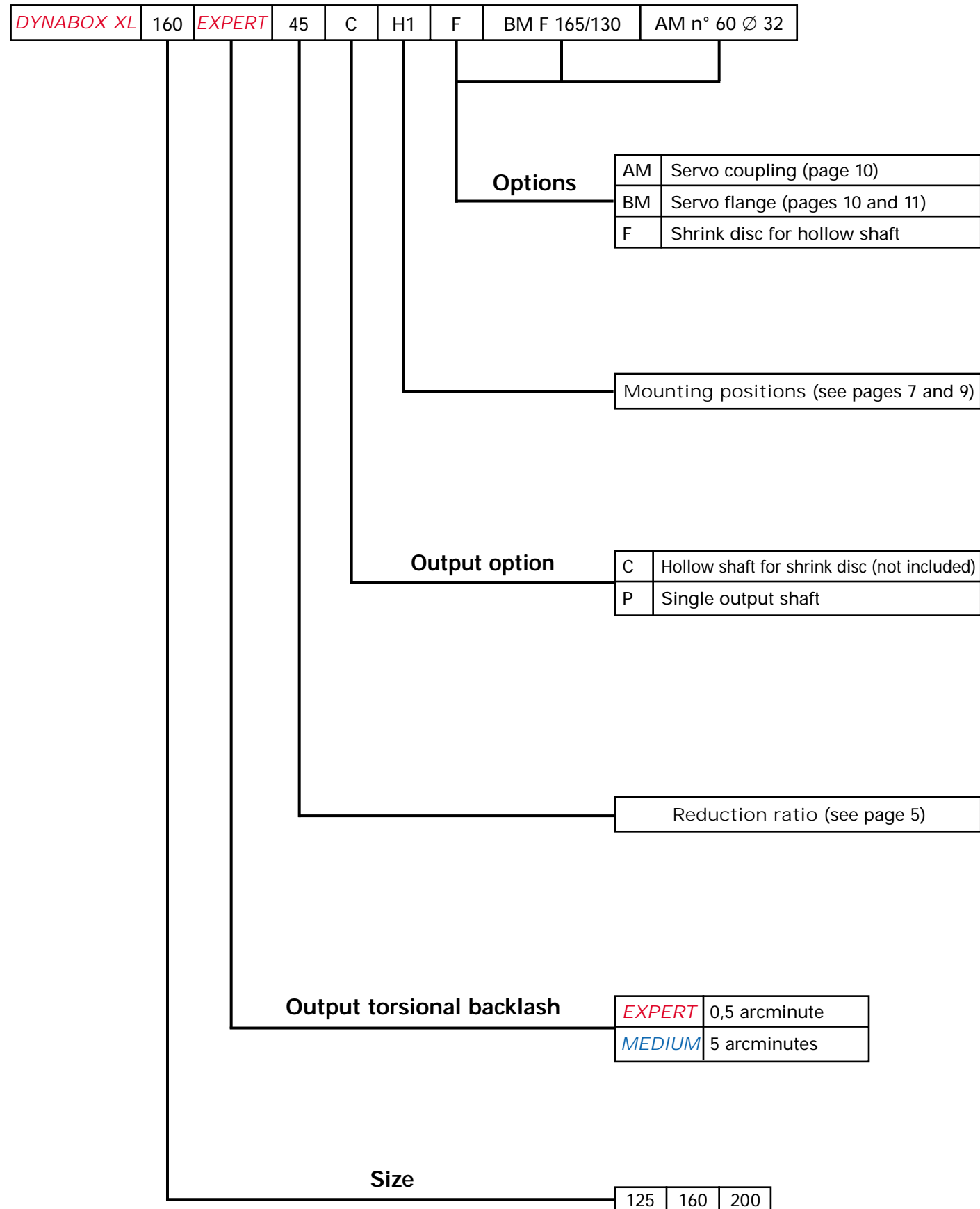
Space saving configuration : the right-angle design, more compact, is favourable in most cases.

Wormgear : very silent, more important permissible overloads, higher torsional stiffness.

Maintenance free : life-lubricated unit with high performances synthetic lubricant.

HOW TO ORDER

Use following codification to order your *DYNABOX XL*.



SERVO GEARSETS *DYNASET XL* WITH ADJUSTABLE BACKLASH

When *DYNABOX XL* servo gearheads cannot be used, the *DYNASET XL* servo gearsets, to be mounted in customized housing, are an interesting alternative.

Their performance are comparable to complete reducers, assuming following recommendations :

MOUNTING

Wormshaft : housing and bearing design should allow an axial shifting, necessary for backlash adjustment. The total adjustment range is obtained with a permissible displacement equal to W, as per page 14.

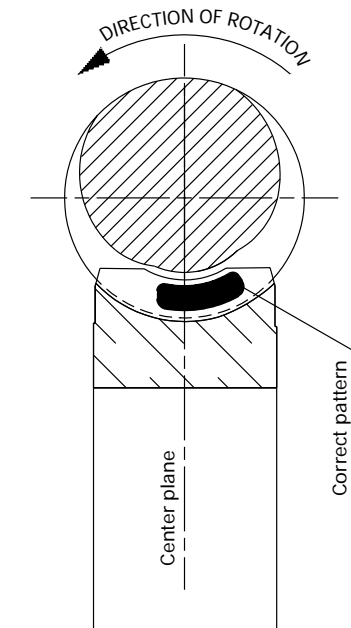
It is recommended, whenever possible, to use our backlash adjustment device, which is delivered preset (see page 15). The front ball bearing (see page 15) must be engaged on the shaft after the complete gear assembly, and before the backlash adjustment operation.

Wheel ring : Arrows shown on wormshaft and wheel ring must be lined up during assembly (see page 14). As the bore ØA tolerance is H6, it is recommended to grind the shaft with a tolerance k5. This will eliminate any runnout between the wheel ring and the shaft. In order to facilitate the connection between the 2 parts, heat the wheel ring up to 50°C.

After cooling, check that the wheel ring is no buckled, by applying a dial indicator on its face, while rotating the shaft.

It is recommended to use taper roller bearings on output shaft, in order to allow an axial displacement of the wheel, during the mounting operations, to center the gear

correctly. The contact pattern can be checked with Prussian blue or any similar product. A good pattern should be located slightly on the right side of the wheel tooth flanks (on both sides). It is normal to have no contact on the left side of the flanks. This gap is necessary for a good oil film forming. See sketch below.



LUBRICATION

The best gear performances in terms of efficiency, life, temperature, will be achieved with a synthetic lubricant such as MOBIL SHC 634 or equivalent. The ratings shown

on page 5 can be considered only if this kind of lubricant is used.

BACKLASH ADJUSTMENT

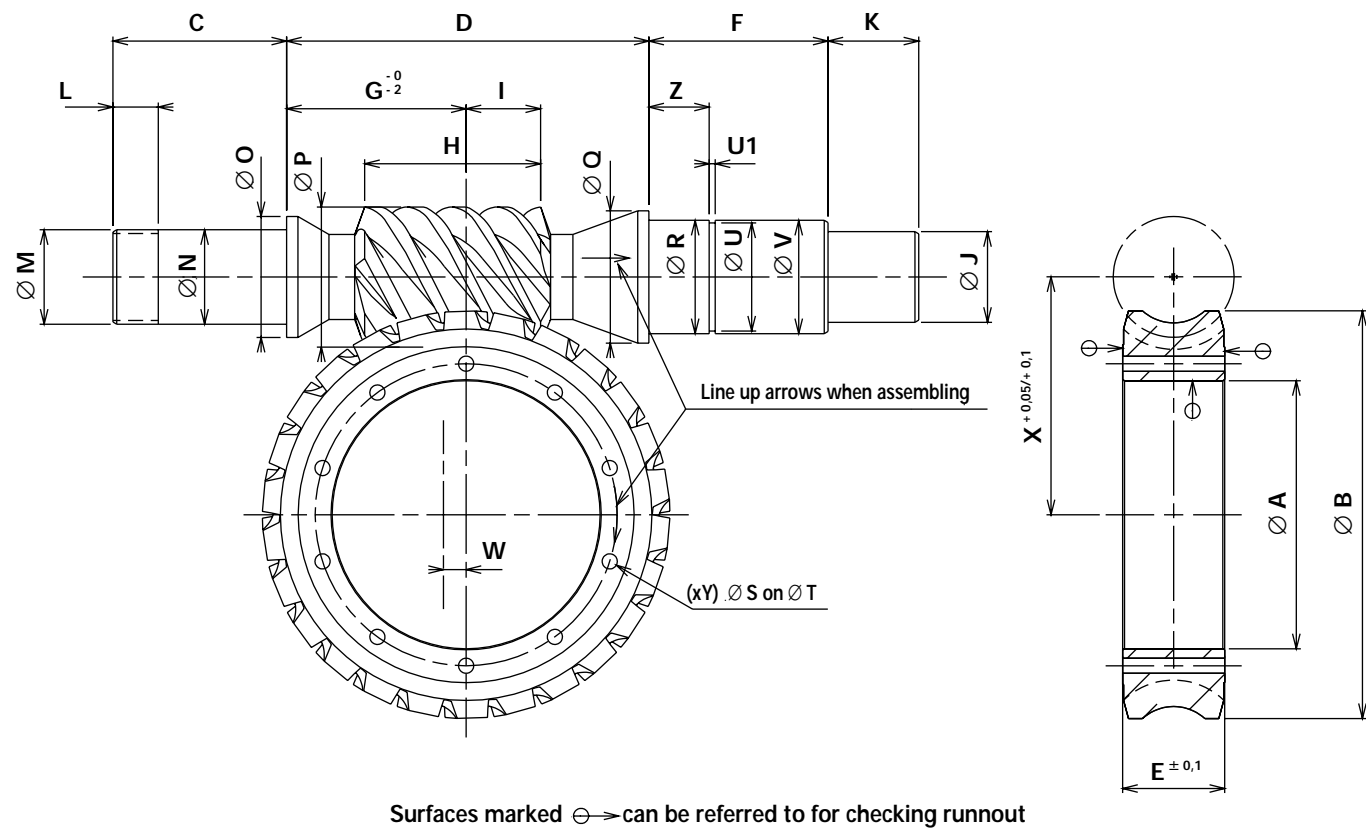
The accuracy of our servo gearsets *DYNASET XL* allows them to be set to less than 0,5 arcminute of backlash, without any efficiency or torque capacity losses (it is assumed than custom machined parts and mounting are correct).

If our backlash adjustment device is used, simply remove some shims (delivered) between the bearing bush and

the housing, until the desired backlash value is obtained. For high speed applications, a backlash between 0,5 to 1 arcminute is recommended.

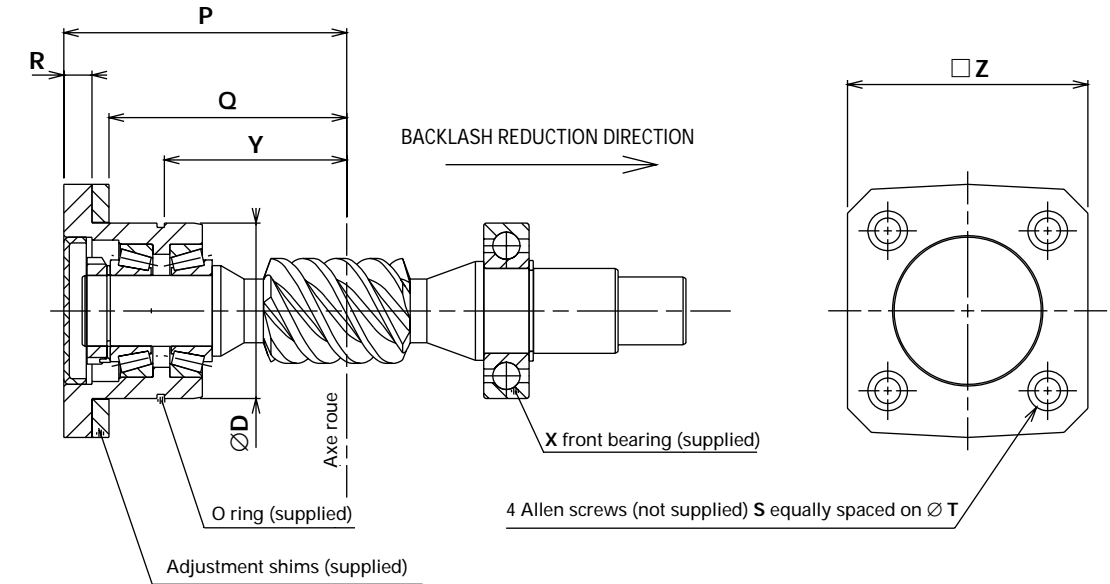
For very intermittent applications (rotary tables or milling heads of CNC machines for ex.), a backlash down to zero is tolerated, as soon as the no load input torque does not vary more than ± 30 % around the average value.

SERVO GEARSET *DYNASET XL*



<i>DYNASET XL</i>	125	160	200
A (H6)	136	190	226
B Maxi	219	280	351
C	63	75	91
D	175	230	302,5
E	40	46	58
F	60,75	81	86,5
G	85,75	121	155
H Maxi	82	103,4	115
I Maxi	33,5	43,85	46,78
J (h6)	35	42	48
K	45	50	55
L	12	15	18
M	M35 x 1,5	M45 x 1,5	M60 x 1,5
N (k6)	35	45	60
O	44	55	72
P Maxi	53	72	84
Q	56,5	68	71
R (k6)	50	60	60
S	10,5	12,5	12,5
T	154	214	260
U	47	57	57
U1	2,15	2,15	2,15
V (c7)	50	60	60
W	10	10	10
X	125	160	200
Y	10	12	12
Z	20	22	35

BACKLASH ADJUSTMENT DEVICE FOR *DYNASET XL*



<i>DYNASET XL</i>	125	160	200
D	90	110	150
Y Maxi	111,4	150,9	191,1
Y Mini	101,4	140,9	181,1
P Maxi	163	204	251
P Mini	153	194	241
Q	135	175	216
R	18	19	25
S	M12	M12	M16
T	115	135	180
Z	130	140	180
X	6210	6212	6412

The backlash adjustment device is delivered mounted and preset.
Bearings are factory preloaded.
Backlash adjustment is operated with shims located between the housing and the bearing bush.

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