

## GYMR5 Probe

RS422

### High performance pan cake type



GYMR5 probe is the pan cake type which put the thickness of the head part in 36mm. Applying to hydraulic cylinder, its total length becomes space saving. Between probe and controller, RS-422 differential line driver transmission, providing robustness against electrical noise, is used. In combination with a digital output controller, Min.1  $\mu$ m resolution is possible. Please consider GYMR6 (page 34-35) in a new inquiry.

### Specifications

|             |                 |                                                                        |
|-------------|-----------------|------------------------------------------------------------------------|
| Accuracy    | Non-linearity   | $\leq \pm 0.025\%FS$ TYP                                               |
|             | Resolution      | (analogue) 16bit (with GYHC)<br>(digital) Min.1 $\mu$ m (with GYDC-05) |
|             | Repeatability   | $\leq \pm 0.001\%FS$                                                   |
|             | Temp. drift     | $\leq \pm 20ppmFS/^{\circ}C$                                           |
| Environment | Max. Pressure   | 35MPa (probe rod)                                                      |
|             | Operating temp. | $-20^{\circ}C \sim +80^{\circ}C$                                       |
|             | Storage temp.   | $-40^{\circ}C \sim +80^{\circ}C$                                       |
|             | Vibration       | 6G (40Hz 2mmPP)                                                        |
|             | Shock           | 100G (2msec)                                                           |
|             | IP grade        | IP64                                                                   |

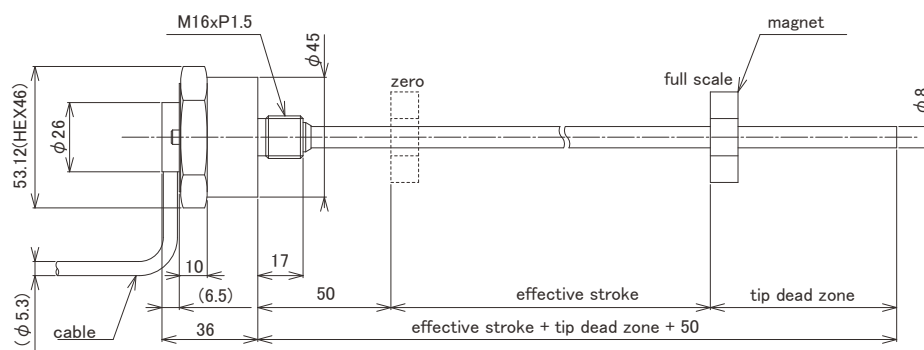
- The above mentioned accuracy applies to sensors with an effective stroke of 300mm or more.
- The specification of stroke less than 300mm is equal that of stroke 300mm.

#### ◆ associated controller

- analogue output: GYHC (page 50-51), GYFC2\*3 (page 52-53)
- digital output: GYDC-S1 (page 54-55), GYDC-05 (page 56-57)

### Dimensions

#### ■ Probe



#### ■ Cable

| Cable color | Function     |
|-------------|--------------|
| red         | Sensor power |
| white       | 0V           |
| green       | Start(+)     |
| black       | Stop(+)      |
| blue        | Start(-)     |
| brown       | Stop(-)      |

- shield should be connected to shield terminal of the controller.

- Material probe head: SS304, probe rod: SS304
- magnet : Select one from group GG on page 109
- The tip dead zone length depends on the selected magnet or float.

## ■ Probe

**GYMR5-**     **-** **/** **-**   **-**   **-**   **-00**

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### ① Effective stroke

15mm~2000mm

### ② Head dead zone

S: 50mm (STD)

□: □mm (option) (specified by customers)

• Possible Min. length depends on the selected magnet or float.

### ③ Tip dead zone

S: 70mm/90mm/100mm (STD)

• S (STD length) depends on the selected magnet or float in ⑤.

| tip DZ | magnet                     | float                  |
|--------|----------------------------|------------------------|
| 70mm   | M2PN, M0SM, M0LM, M3, M11N | F25N, F28N             |
| 90mm   |                            | F28S, F30S             |
| 100mm  | T144, T163                 | F40S, F42S, F50S, F54S |

□: □mm (option) (specified by customers)

• Possible Min. length depends on the selected magnet or float.

### ④ Thread/Rod diameter

K8 : M16xP1.5, rod Φ8 (STD)

M : M24xP1.0, rod Φ10

N : M18xP1.5, rod Φ10

• In case of stroke longer than 1000mm, rod Φ10 is recommended.

### ⑤ Associated magnet or float

<magnet>

M2PN : No.2PN (STD)

M0SM : No.Φ SPM

M0LM : No.Φ LPM

M3 : No.3

M11N : No.11N

T144 : No.T14-M4

T163 : No.T16-M3

<float>

F28S : Φ28 SS316L

F30S : Φ30 SS316L

F40S : Φ40 SS316(B)

F42S : Φ42.5 SS316

F50S : Φ50 SS316L

F54S : Φ54 SS304

F25N : RF-A10 plastic

F28N : RF-A6 plastic

- Please consult if you select a magnet or a float of other than above.
- This Model code means only specifying associated magnet or float.
- When you need a magnet or float, please order separately.

### ⑥ Cable connection

△G□F: pigtail / cable end : free

△G□A: pigtail / cable end : with connector for relay

△G□FC: pigtail / cable end : with connector for GYFC2/3

(□: cable length(m), Max.10m) (\*)

(△: cable type

S: standard, R: robot cable)

(\*) In case of using extension cable

sensor cable (m) + extension cable (m) ≤ 200m

• Please consider extension cable on page 111.

### ⑦ Output

00: depends on external controller

### 【Start/Stop-Interface】

◆ In case of using probe only,

probe outputs digital signals (start/stop) using RS422 differential line drivers. In response to user's interrogation (start) pulse, probe provides stop pulse.

