

ALFARAIL SYSTEM[®]

ALFARAIL SYSTEM[®]

Easy transfer with small force
With the lightness of movement
[with small friction resistance of under 1/5
compared with steel rail systems]

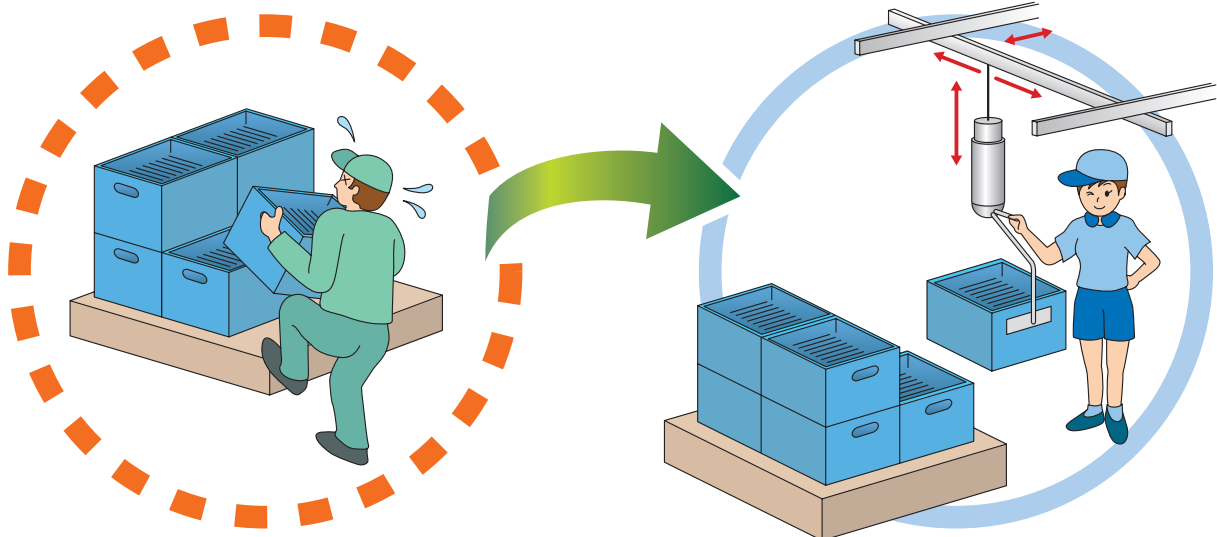
The logo for ARS, featuring a stylized 'A' with a red triangle on the left side, followed by the letters 'RS' in a bold, black, sans-serif font.

TOYOTSU TEC CORPORATION

An excellent transfer system that is *friendly* to *humans* and *environment*

One of the assignments of Japan's industry having achieved high economic growth is to carry on business activities considering the earth environment, such as environmental preservation, energy saving and resource recycling. ALFARAIL SYSTEM is a lightweight material-handling rail system developed with a pursuance of aluminum potentials. The extruded structural rails of aluminum alloy are, compared with steel rails, more safe, more friendly to environment (e.g., coating-free, resource recycling, power-free) and more economical. However advanced the factory automation is with full-automatic production lines, manual transfer work certainly remains under present circumstances. With small friction resistance and light movement as features we are proud of, ALFARAIL can lessen labor burden on operators and therefore friendly to humans.

Improvement example of transfer for plastic containers and cases



Installation example at working places





ARS500H

ARS500

ARS200H

ARS200

High quality & safety

High rigidity achieved by the extruded structure of aluminum alloy
Safety design realized in various components, such as S.S. rollers and plug-in structure

Light operation

Far smaller coefficient of static friction, which is under 1/5 compared with steel rails
Achieved easy transfer and light movement

Flexible lines

Flexible lines configured according to your working needs, which can be achieved due to abundant components and easy rail-length adjustment

Beautiful appearance

Coating-free, beautiful appearance maintained with a combination of Alumite treatment and clear coat treatment

Environment-friendly

Using easy-to-recycle aluminum alloy
Smooth travel performance requiring no power so as to be environment-friendly and economical

Aluminum alloy rail

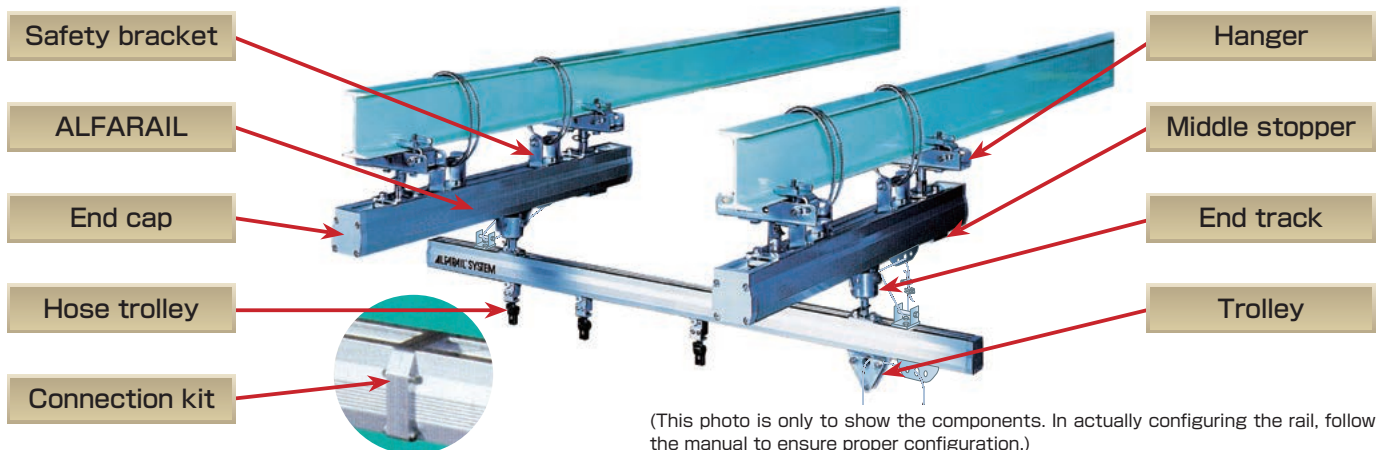
Smooth traveling with small friction resistance is ensured due to high-precision extrudes structure of aluminum alloy based on computerized analysis by using the finite element method (FEM). Therefore, your working environment can be improved easily.

System configuration

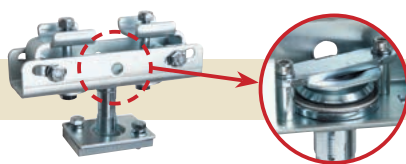
ALFARAIL SYSTEM is available in two series: ARS500 Series for lifting load up to 500kg, and ARS200 Series for lifting load up to 200kg. When various rails and various components are combined, flexible lines can be configured according to your on-site needs.

Components

A wide variety of components are available to meet every possible use, such as S.S. roller* developed on our unique idea, middle stopper with brake* and lift-preventive hanger end track. (*: Patent applied)



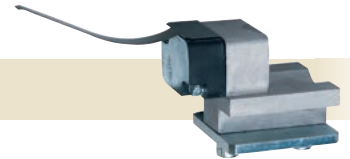
(This photo is only to show the components. In actually configuring the rail, follow the manual to ensure proper configuration.)



Lift prevention

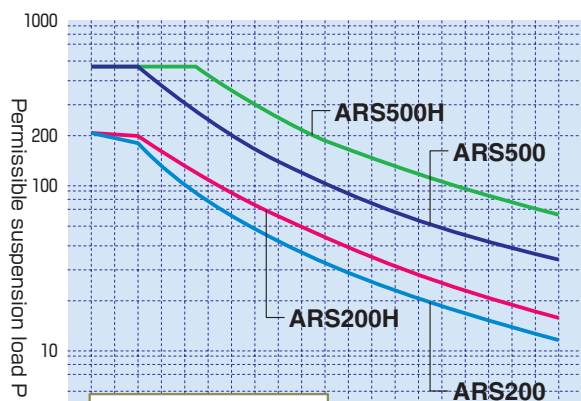


S.S. roller



Middle stopper with brake

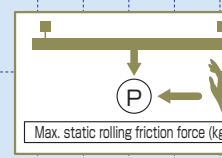
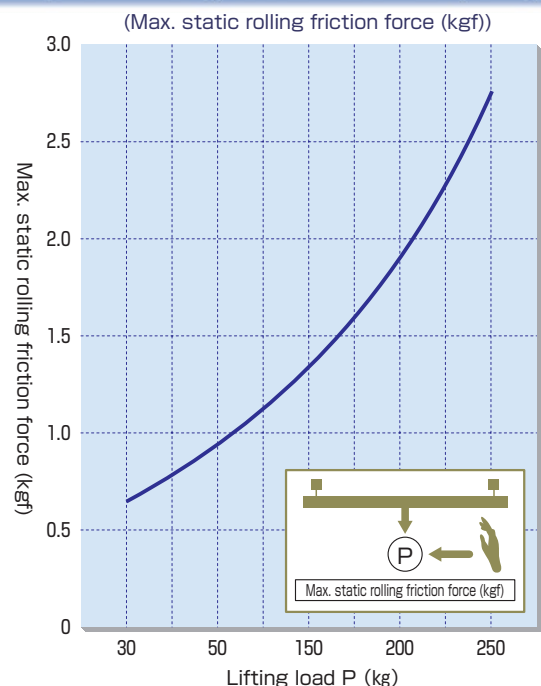
Relationship between the suspension span and the permissible suspended load



| | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| ARS500H | 500 | 500 | 500 | 364 | 253 | 186 | 142 | 112 | 91 | 75 | 63 |
| ARS500 | 500 | 500 | 310 | 199 | 138 | 101 | 78 | 61 | 50 | 41 | 34 |
| ARS200H | 200 | 200 | 147 | 94 | 65 | 48 | 37 | 29 | 24 | 19 | 16 |
| ARS200 | 200 | 177 | 100 | 64 | 44 | 33 | 25 | 20 | 16 | 13 | 11 |

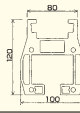
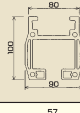
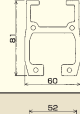

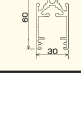
Suspension span L (mm)

Relationship between lifting load and initial manual pushing force

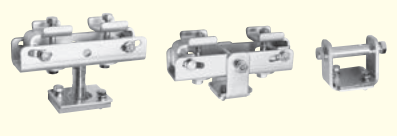

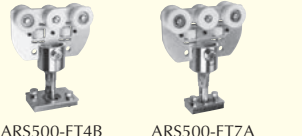

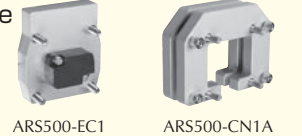






Aluminum alloy rail A6063S-T5 with proof stress of 205MPa

| Series | Model | Unit weight | Rail length | R (curve) rail |
|------------------|-------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------|---------------------------------------|
| ARS500 Series | ARS500H  | 8.50kg/m | 1 – 6 m (in steps of 1m) For fractions, consult us. | ————— |
| | ARS500  | 5.80kg/m | | R1200 90° (Use dedicated trolley.) |
| ARS200 Series | ARS200H  | 4.72kg/m | | ————— |
| | ARS200  | 3.67kg/m | | R750 90° (Use dedicated trolley.) |
| For hose trolley | ARS050  | 1.30kg/m | | R750 90° |

Component list

| Name | | Series | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------|--------------|---------------|---------------|
| | | ARS500Series | ARS200Series | | |
| Hanging bracket  ARS500-HN1 ARS500-HN2 ARS500-SJ1 | Hanger | Standard type | ARS500-HN1 | ARS200-HN1 | |
| | | Standard lift-preventive type | ARS500-HN1-F | ARS200H-HN1 | ARS200H-HN1-F |
| | | Parallel type | ARS500-HN2 | ARS200H-HN1-F | ARS200-HN2 |
| | Safety bracket | ARS500-SJ1 | ARS200-SJ1 | | |
| Trolley  ARS500-TR3A ARS500-TR4A | Standard type | ARS500-TR3A | ARS200-TR3 | | |
| | Plate type | ARS500-TR4A | ARS200-TR4 | | |
| End track  ARS500-ET4B ARS500-ET7A | Both-side hinge type | ARS500-ET4B | ARS200H-ET4 | | |
| | One-side hinge type | ARS500-ET5A | ARS200-ET5 | | |
| | ARS500/200 Combined One-side hinge type | ARS500-ET6A | ————— | | |
| | ARS500/200H Combined Both-side hinge type | ARS500-ET7A | ————— | | |
| Middle stopper  ARS500-MS2 ARS500-MS3 ARS500-MS4 | Standard type | ARS500-MS2 | ARS200-MS2 | | |
| | Brake type | ARS500-MS3 | ARS200-MS3 | | |
| | Damper type | ARS500-MS4 | ARS200-MS4 | | |
| Rail related device  ARS500-EC1 ARS500-CN1A | End cap | ARS500H-EC1 | ARS200H-EC1 | | |
| | | ARS500-EC1 | ARS200-EC1 | | |
| | Connection kit | ARS500H-CN1 | ARS200H-CN1 | | |
| ARS500-CN1A | | ARS200-CN1 | | | |
| Utility supply related device 1  ARS500-HT4 ARS500-RH1 | Hose trolley | ARS500-HT4 | ARS200-HT4 | | |
| | Rail hanger | ARS500-RH1 | ARS200-RH1 | | |
| Utility supply related device 2 (when ARS050 ALFARAIL is used)  ARS050-HT4 ARS050-CN1 ARS050-ES2 | Hose trolley | ARS050-HT4 | | | |
| | Connection kit | ARS050-CN1 | | | |
| | End cap | ARS050-ES2 | | | |

● For detailed specifications, refer to the drawings of ARS ALFARAIL SYSTEM.

Pursuance of satisfactory ease of use

Pursuance of lifting/lowering speed

The apparently "light," speedy move cuts down the hours of work.

The lifting/lowering speed up to 50m/min realizes the speed of pure manual operation using no devices (3-5 times faster compared with hoist*) *Internal comparison

Pursuance of quick response to weight difference

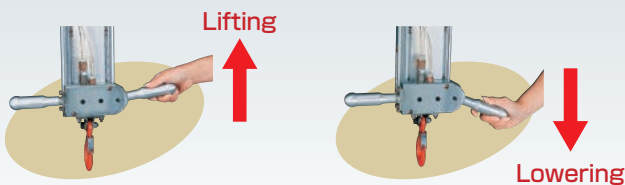
The ease and convenience of lifting "anytime" smoothens your line production work.

Even in case of any weight difference in cargo, you are free from "weight adjustment each time" due to our original special air valve employed for quick response to weight difference.

Pursuance of operation efficiency

The complex function allows you to operate lifting/lowering and speed adjustment by using a single lever.

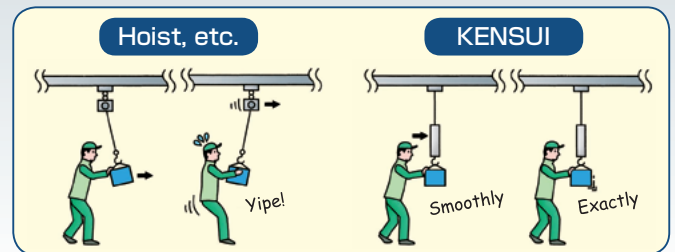
Even women and feeble persons can handle "easily in one hand" upon the installation.



Pursuance of control efficiency

The employed low barycenter structure allows the center of gravity of the main body to move near the load.

Since there is a little swing-back of the main body for this structure, which realizes "easy positioning," the operator will have a little fatigue and increase his/her processing ability.



■ In palletizing food containers



■ In setting on machine tools



■ In cleaning



■ In loading on carts



Helping handling work at various working places



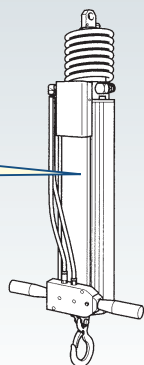
Pursuance of applicability to various working places

Pursuance of main body compactness and longer work stroke

Broader installable width and the "securement of vertical space" even at a low-ceiling working place are what our KENSUI is proud of.

The employed expansion/contraction mechanism is of our original development using no cylinder rod.

The stroke of 1300mm, about twice the main body length of 680mm, has achieved.



Pursuance of applicability to working environment

Since the drive source is only the air, KENSUI can be applied to explosion-proof working places.

The major portion of the main body is made of aluminum (with Alumite treatment) free from "de-coating" so as to be sanitary for the optimum use in handling food and precision products.

Pursuance of safety

Even in case of no air supply, "unloading" is possible as a great feature we are proud of.

A fall-preventive mechanism has been employed in preparation for no primary air supply.

Pursuance of stability in mounting lifting gears

That "stable load lifting" can be achieved is a feature we are proud of.

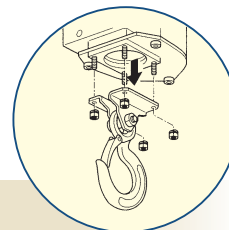
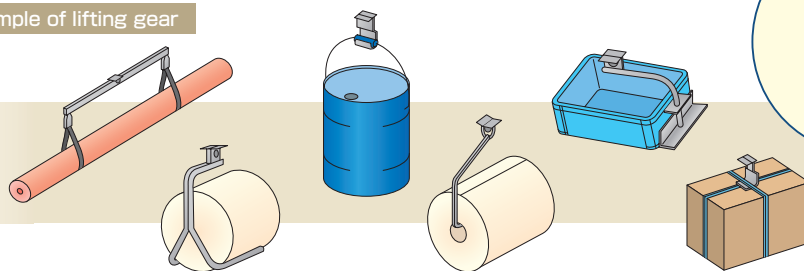
The bolt fastening has been employed to locking the lifting gear to the main body bottom.

ARS070-1300A
(With standard hook)



Various lifting gears can be attached.

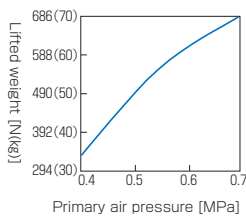
Example of lifting gear



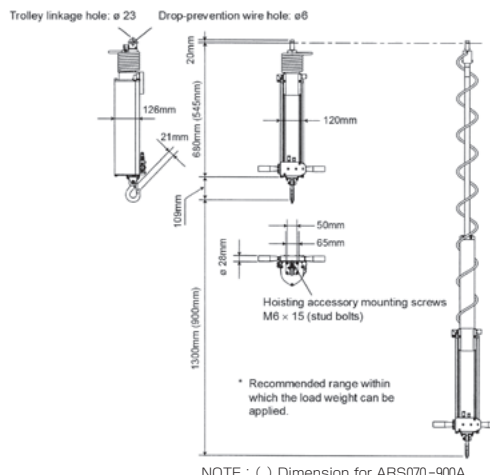
Specifications

| Model | ARS070-1300A | ARS070-900A |
|--------------------------------------------------|-----------------------------------------------------------|-------------------------------------|
| Vertical stroke | 1300mm | 900mm |
| Main body mass (including hook unit) | Approx. 10kg | Approx. 9kg |
| Main body height (not including hook unit) | Approx. 680mm | Approx. 545mm |
| Rated lifting mass (including lifting gear mass) | Max. 686N (70kg) (at air source pressure of 0.7MPa) | |
| Operating air pressure | 0.4—0.7MPa | |
| Air consumption | Approx. 2.5L/min (ANR) (per stroke) | Approx. 1.8L/min (ANR) (per stroke) |
| Lifting/lowering speed (Reference value) | With no load : 0—50m/min With 50kg lifting : 0—30m/min | |
| Main body swivel | Endless | |

Lifted weight (Reference values)



Dimensions Information



NOTE : () Dimension for ARS070-900A

“Ease of use,” “reasonable price” and “ease of assembling” have been pursued!

“ALFAYARD” is an independent system of

ALFAFRAME*

+

ALFA RAIL

*ALFAFRAME is registered product of NIC Autotec,INC.

- **Maximum lifting load of 80kg**
(including winch)
- **Cost reduction to be 2/3 of the conventional installation system**
※ Internal arithmetic comparison
- **Easy assembling requiring no special tools**
※ Forklift or ceiling crane is used as an auxiliary assembling means.
※ It takes only one day (with 3 workers) to install the system (Internal arithmetic comparison)



NOTE : ALFAYARD does not include [KENSUI].

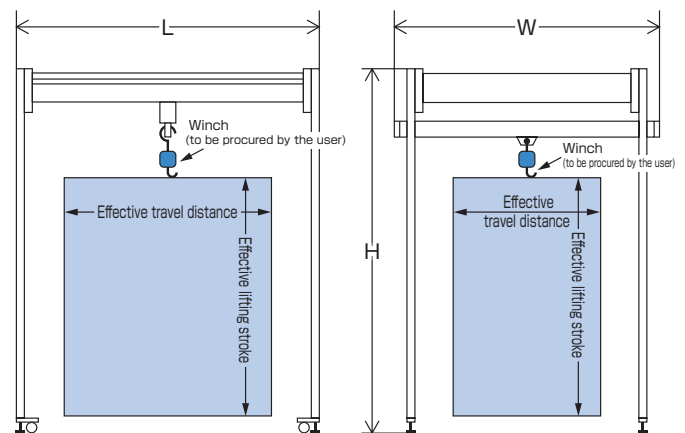
Standard specifications

Unit : mm

| Model | L | W | H |
|--------|-------|-------|-------|
| ARY-01 | 3,000 | 3,040 | 3,000 |
| ARY-02 | 3,500 | | |
| ARY-03 | 4,000 | | |

Notes for order placement

- ※ For the standard specifications, specify the model and the L/W/H dimensions.
- ※ ALFAYARD is available only within the dimensions of the standard specifications. (Refer to L/W/H dimensions.)
- * The effective working area can be obtained by using the following equation:
L dimensions — 762mm, W dimensions — 575mm,
H dimensions — 547mm + winch length



Effective working area

■ For inquiry or request:

■ Distributing agent

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