

# PH FITNESS

## Dual Adjustable Cable Crossover

2 × 100 kg Stacks • 290 cm Width • Full-Height Adjustable Pulleys • Multi-Grip Pull-Up Bar

USER MANUAL & ASSEMBLY GUIDE | Studio-Grade Cable Machine



*Your gym. Your performance. Your pace.*

**Model**  
Dual Cable Crossover

**Document**  
User Manual

**Version**  
1.0 — 2026

# 1. Safety Instructions

Read all safety instructions before assembling or using this equipment. Keep this manual for future reference. Failure to comply may result in serious injury or death.

**⚠ WARNING:** Assembly requires a MINIMUM of 2 persons at all times. The machine weighs 230 kg. Never attempt solo assembly of any major component.

**⚠ WARNING:** CRITICAL — Cable routing step (Step 4): The M8 bolt (#33) securing the wire rope MUST be fully tightened. A loose cable under load can snap free and cause serious injury.

## 1.1 General Safety

- For healthy adults only. Consult your physician before beginning any training programme.
- Inspect all cables, pulleys and bolts before EVERY use.
- Keep children and pets away from the machine at all times.
- Maintain at least 150 cm of clear training space on both open sides of the machine.
- Wear appropriate closed-toe athletic footwear during all training.
- Never insert hands or objects into pulleys, cable channels or the weight stacks.
- Do not modify any component — modifications void the warranty and create safety risks.

## 1.2 Cable & Pulley Safety

- Inspect cables before every session for fraying, kinking or corrosion. Replace immediately if found.
- Confirm pulley carriage locking knob is fully engaged before loading weight.
- Never release a loaded cable handle without maintaining full control.
- If a cable jumps off a pulley, unload the stack completely before re-routing.
- Both stacks are independent — lower weight slowly and under control.

## 1.3 Installation Requirements

- Floor must be level, stable and capable of bearing the machine weight (230 kg) plus training loads.
- Rubber gym flooring or matting is strongly recommended.
- Allow minimum 150 cm working space on both open sides during training.
- Two persons required for assembly at all times. Re-check all bolts after first 2 training sessions.

## 2. Product Overview

### 2.1 Key Features

|                      |                                                                    |
|----------------------|--------------------------------------------------------------------|
| Machine Width        | 290 cm — maximum range of motion for fly and functional exercises  |
| Weight Stacks        | 2 × 100 kg, fully independent — unilateral training ready          |
| Pulley Adjustment    | Full-height adjustable on both columns — low to high               |
| Pull-Up Bar          | Integrated multi-grip arch bar — wide, close and neutral grip      |
| Side Handles         | Four handles (2 per tower) for stability during exercises          |
| Low Cable            | Base-level pulley on each tower for squats, rows and leg exercises |
| Frame                | 50×50 mm steel, 1.5 mm wall, 230 kg gross weight                   |
| Training Environment | Home gym, PT studio, semi-commercial, hotel gym, rehab             |

## 3. Technical Specifications

### 3.1 Frame & Dimensions

|               |                                                |
|---------------|------------------------------------------------|
| Type          | Dual Adjustable Cable Crossover Machine        |
| Overall Width | 290 cm                                         |
| Depth         | 74 cm                                          |
| Height        | 217 cm                                         |
| Frame         | 50 × 50 mm steel tubing, 1.5 mm wall thickness |
| Finish        | Black powder coating                           |
| Gross Weight  | 230 kg assembled                               |
| Total Stack   | 200 kg (both stacks combined)                  |

### 3.2 Cable & Pulley System

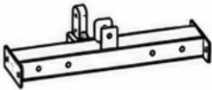
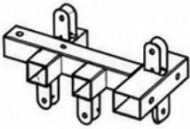
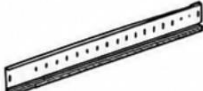
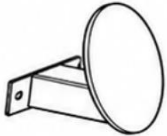
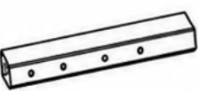
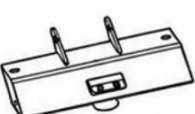
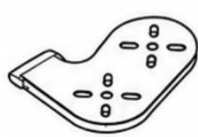
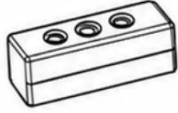
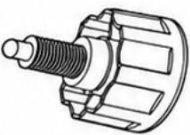
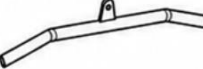
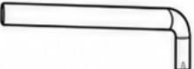
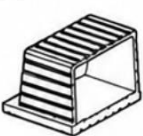
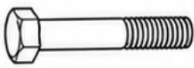
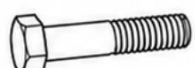
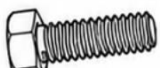
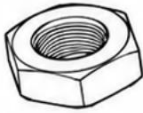
|               |                                                           |
|---------------|-----------------------------------------------------------|
| Pulley System | Dual adjustable — full column height range                |
| Pulley Type   | Multi-wheel carriage — high/mid/low cable in one carriage |
| Low Pulley    | Base-mounted fixed low pulley on each tower               |
| Cable Type    | High-tensile steel wire rope (#25)                        |
| Pull-Up Bar   | Multi-grip arch bar — 4+ grip positions                   |
| Side Handles  | 4 handles total (2 per tower, upper and lower)            |

### 3.3 Warranty & Delivery

|              |                                                                                   |
|--------------|-----------------------------------------------------------------------------------|
| Warranty     | 2 years from date of purchase                                                     |
| Delivery     | Free home delivery                                                                |
| Intended Use | Home gym, PT studio, semi-commercial                                              |
| Support      | Dutch-language customer support — <a href="https://phfitness.nl">phfitness.nl</a> |

## 4. Parts Identification

Before starting assembly, unpack all components and verify each item against the diagrams below. Contact PH Fitness immediately if any part is missing or damaged.

|                                                                                                   |                                                                                                   |                                                                                                   |                                                                                                    |                                                                                                     |
|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 1<br>            | 2<br>            | 3<br>            | 4<br>            | 5<br>            |
| 6<br>            | 7<br>            | 8<br>            | 9<br>            | 10<br>           |
| 11<br>          | 12<br>          | 13<br>          | 14<br>         | 15<br>          |
| 16<br>         | 17<br>         | 18<br>         | 19<br>         | 20<br>         |
| 21<br>         | 22<br>         | 23<br>         | 24<br>         | 25<br>         |
| 26. M10×90<br> | 27. M10×70<br> | 28. M10×80<br> | 29. M10×45<br> | 30. M10×20<br> |
| 31. Ø10<br>    | 32. M10<br>    | 33. M8<br>     |                                                                                                    |                                                                                                     |

## 5. Assembly Instructions

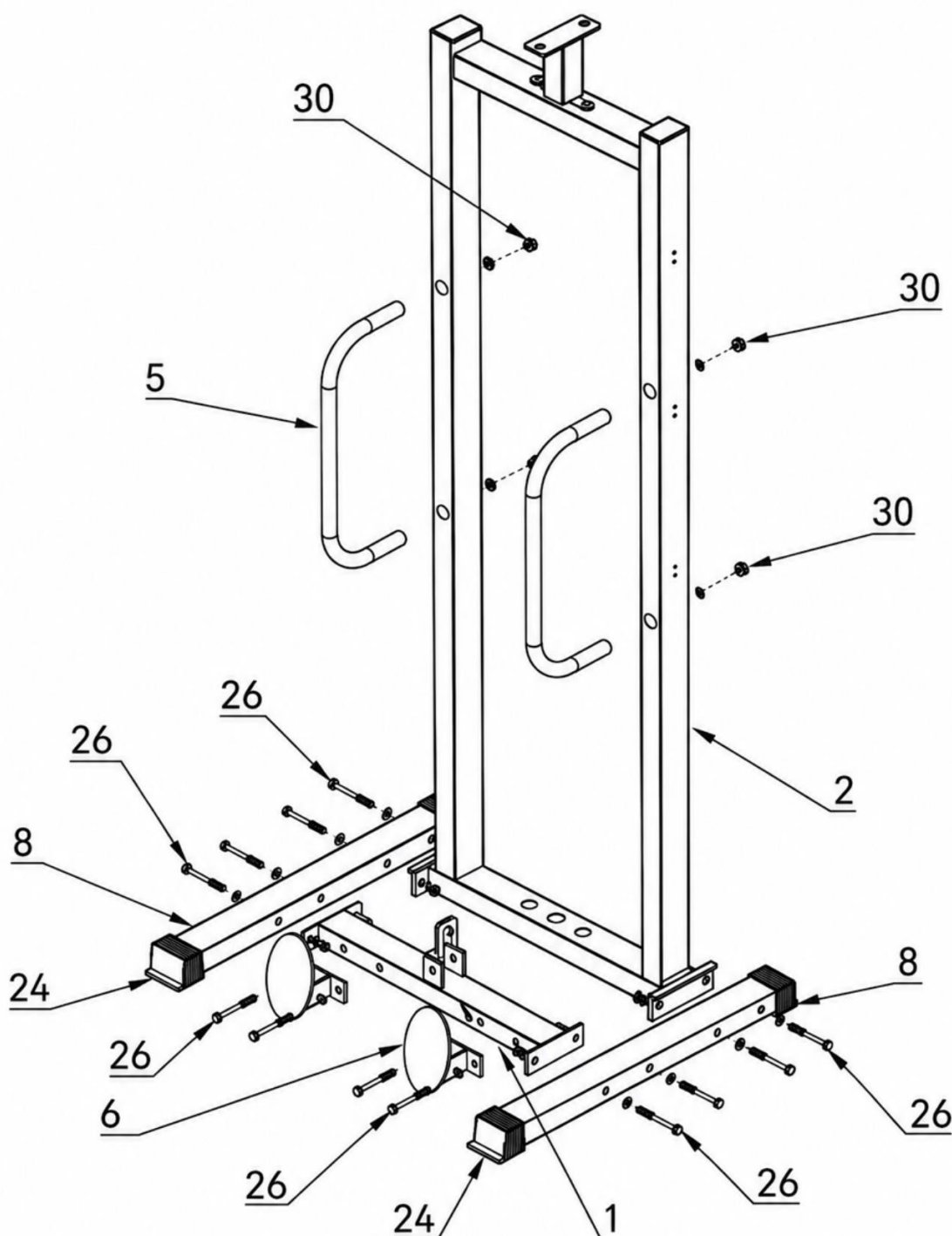
**⚠ WARNING:** MINIMUM 2 PERSONS REQUIRED throughout assembly. Machine weighs 230 kg. Estimated assembly time: 90–120 minutes. Do NOT fully tighten any bolt until all parts in each step are loosely in position.

### Step 1 — Base Frames, Upright Columns & Side Handles

**1**

#### Assemble the Base Frame and Upright Columns

Attach the upright columns to the base frame and install the support handles on both sides. Secure the lower stabilizers and foot supports, ensuring the frame is square and level. Leave all hardware slightly loose until the entire assembly is aligned, then fully tighten all connections.

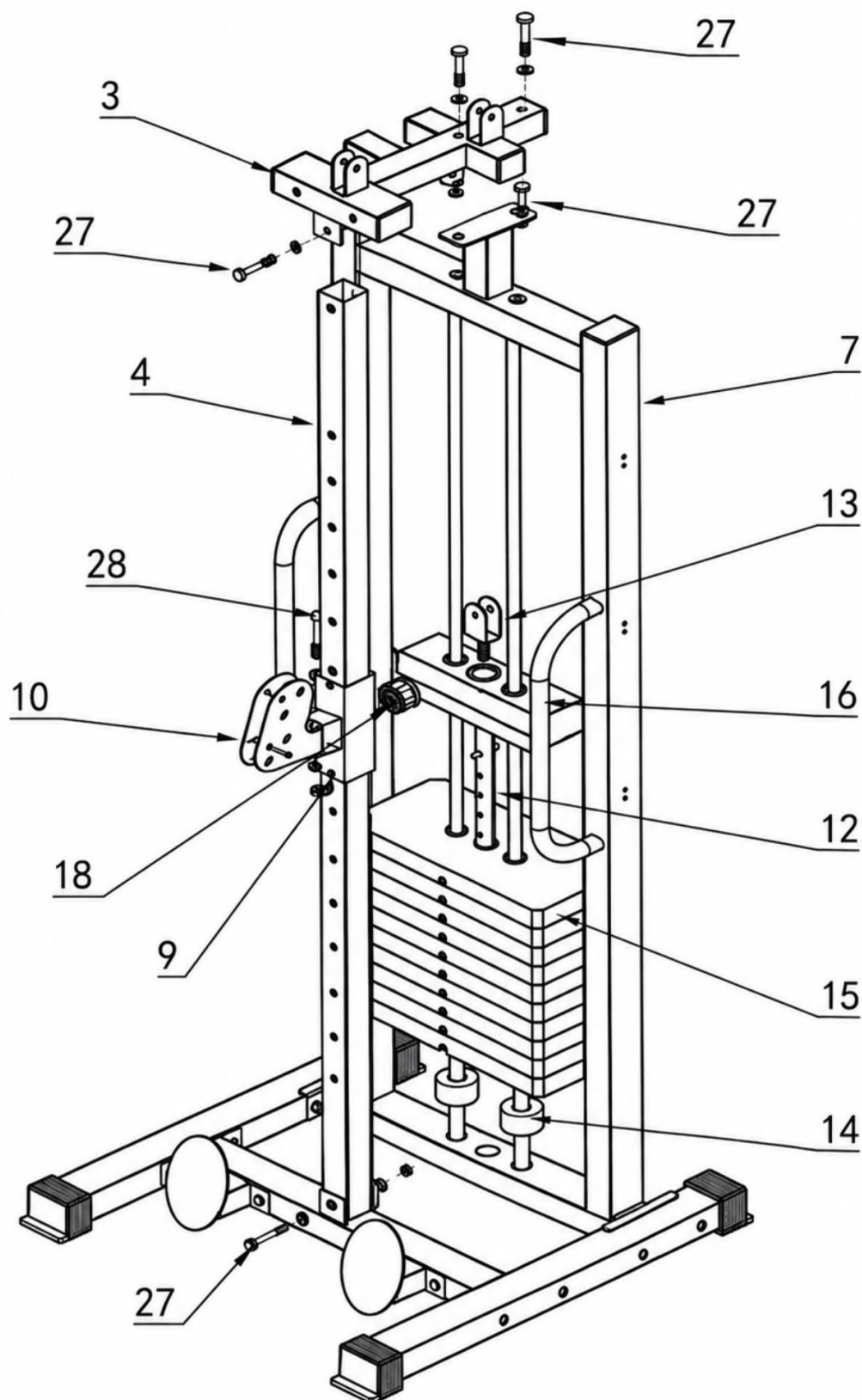


## Step 2 — Weight Stack Columns, Pulley System & Top Frame

**2**

### Install the Weight Stack Assembly

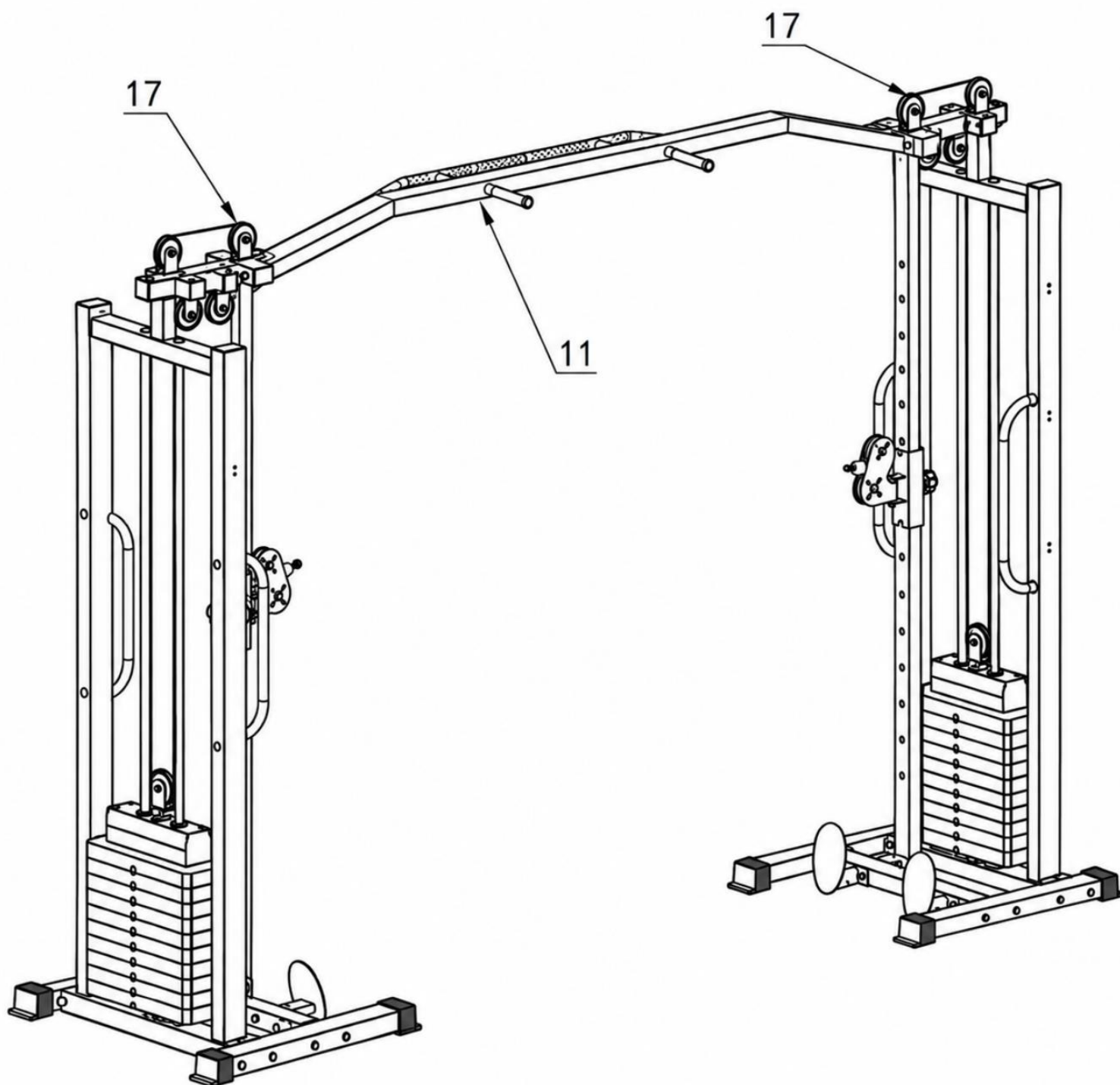
Mount the upper support bracket and install the guide rods. Slide the weight plates onto the guide rods, followed by the selector rod and top plate assembly. Install the pulley carriage and adjustment components in the orientation shown, ensuring all moving parts operate freely before proceeding.



### Step 3 — Top Arch Bar & Pull-Up Bar

**3****Connect the Upper Crossmember**

Attach the upper curved crossmember between both tower assemblies. Secure the upper pulley brackets and ensure the towers are correctly aligned. Once the structure is stable and level, fully tighten all frame hardware..



## 6. Cable Routing

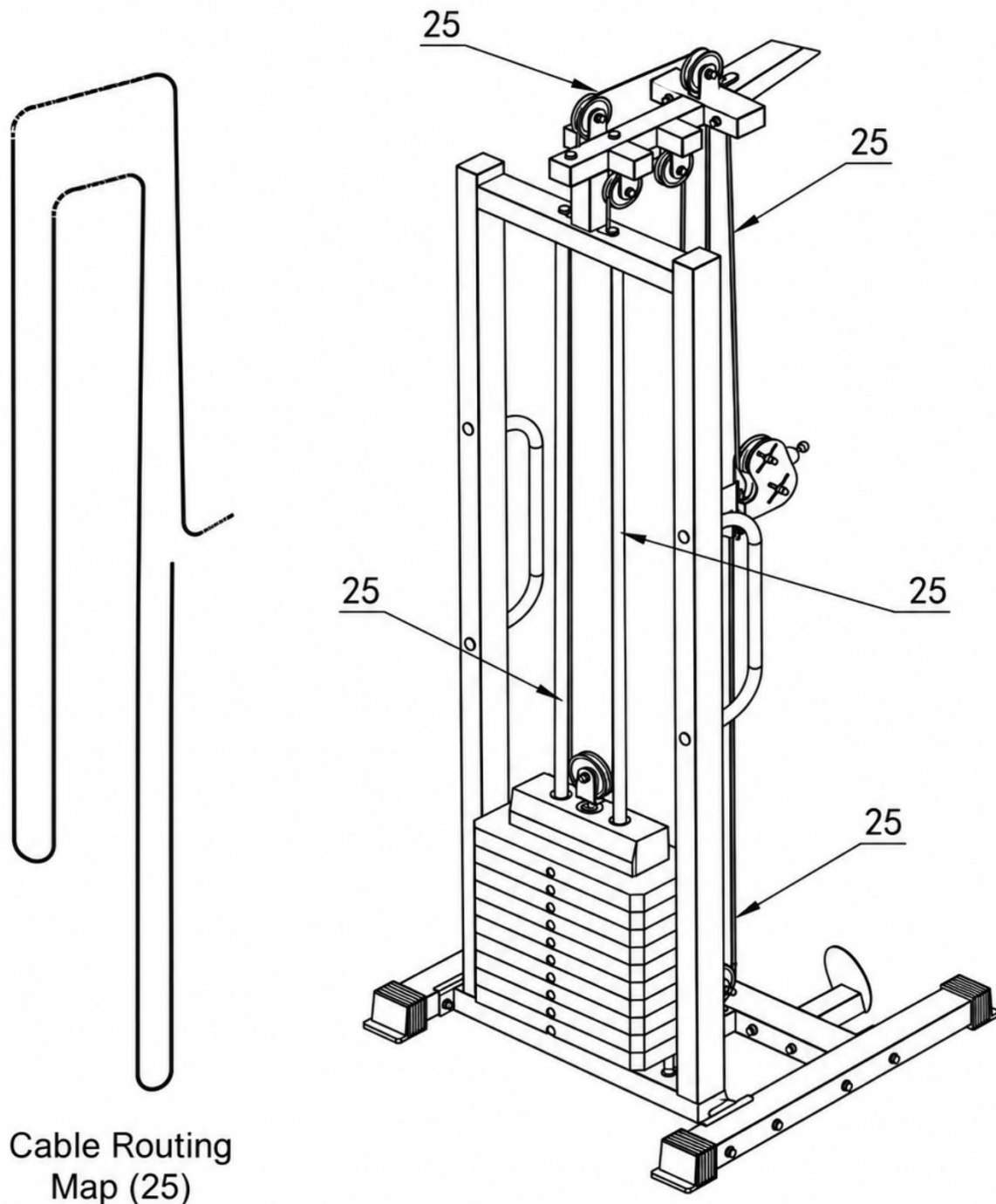
**⚠ WARNING:** CRITICAL STEP — Incorrect cable routing causes malfunction. The M8 bolt (#33) securing the wire rope end **MUST** be fully tightened. The screw must be tightened to prevent the rope falling off — failure to do so is extremely dangerous.

### Cable Routing Procedure (Repeat for Both Sides Identically)

**4**

#### Route and Secure the Cable System

Route the cable through all upper and lower pulleys following the cable path shown in the diagram. Ensure the cable sits correctly within each pulley groove and remains free from twists. Secure the cable ends, adjust the tension as required, and verify smooth operation throughout the full range of motion before use.



Cable Routing  
Map (25)

## 7. Station Operating Instructions

### 7.1 Selecting Weight

1. Locate the selector pin on the weight stack.
2. Insert the pin fully through the desired numbered plate — must exit the other side.
3. Pin must be fully seated — give it a firm push to confirm.
4. Select minimum weight on first use to verify smooth cable movement before increasing.

### 7.2 Adjusting Pulley Height

5. Ensure weight stack is at rest (selector pin seated) before adjusting.
6. Loosen the pulley carriage locking knob (turn anti-clockwise).
7. Slide carriage to desired height position.
8. Turn locking knob clockwise firmly until it stops.
9. Tug the cable attachment carabiner — carriage must not move. If it moves, re-lock.
10. Test with minimum weight before proceeding to working weight.

### 7.3 Cable Height Zone Guide

|                             |                                                                              |
|-----------------------------|------------------------------------------------------------------------------|
| <b>HIGH (top of column)</b> | Lat pulldown, tricep pushdown, high cable fly, face pull, overhead extension |
| <b>UPPER-MID</b>            | Cable chest press, incline cable fly, front raise, bicep curl                |
| <b>MID (centre)</b>         | Standard cable crossover, cable fly, seated row, lateral raise               |
| <b>LOWER-MID</b>            | Low cable fly, woodchopper, pull-through, core rotation                      |
| <b>LOW (base)</b>           | Cable squat, hip abduction, low row, leg exercises, standing curl            |

### 7.4 Using Both Stacks Simultaneously

- Both weight stacks operate completely independently — different weights on each side is fully supported.
- For cable crossover exercises: set both pulleys to identical heights for symmetrical resistance.
- For unilateral training: use one side at a time — set the other selector pin to minimum.
- For rotational core exercises: set one high and one low for diagonal cable paths.
- The 290 cm working width allows full extension arms for cable fly without restriction.

### 7.5 Pull-Up Bar Usage

- Wide overhand grip (outer arch): targets latissimus dorsi primarily.
- Shoulder-width grip: balanced back and bicep recruitment.
- Narrow grip (inner bar): emphasises lower lats and brachialis.
- Underhand chin-up grip: bicep-dominant pulling movement.
- Hanging leg/knee raises: core and hip flexor training.

## 8. Exercise Guide

The Dual Adjustable Cable Crossover supports hundreds of exercise variations across all major muscle groups. The 290 cm width provides unrestricted range of motion for cable fly and functional exercises.

### 8.1 Chest

| Exercise               | Pulley Height | Primary Muscles                               |
|------------------------|---------------|-----------------------------------------------|
| Cable Fly (Cross-Body) | HIGH → MID    | Pectoralis Major (stretch & peak contraction) |
| Cable Chest Press      | MID           | Pectoralis Major, Anterior Deltoid, Triceps   |
| Incline Cable Press    | LOW → MID     | Upper Pectorals, Anterior Deltoid             |
| Cable Crossover        | HIGH          | Pectoralis Major, Serratus Anterior           |
| Low Cable Fly          | LOW           | Lower Pectorals, Serratus Anterior            |
| Single-Arm Cable Press | MID           | Pectorals (anti-rotation emphasis)            |

### 8.2 Back

| Exercise                    | Pulley Height | Primary Muscles                             |
|-----------------------------|---------------|---------------------------------------------|
| Lat Pulldown                | HIGH          | Latissimus Dorsi, Biceps, Posterior Delt    |
| Seated Cable Row            | LOW           | Rhomboids, Mid-Trapezius, Biceps            |
| Straight Arm Pulldown       | HIGH          | Latissimus Dorsi, Teres Major               |
| Face Pull                   | HIGH-MID      | Posterior Deltoid, External Rotators, Traps |
| Single Arm Row              | LOW-MID       | Latissimus Dorsi, Rhomboids, Biceps         |
| Chest-Supported Row (prone) | MID           | Rhomboids, Mid-Trapezius, Rear Delt         |

### 8.3 Shoulders

| Exercise                   | Pulley Height | Primary Muscles                   |
|----------------------------|---------------|-----------------------------------|
| Cable Lateral Raise        | LOW           | Medial Deltoid                    |
| Cable Front Raise          | LOW           | Anterior Deltoid                  |
| Rear Delt Fly (cross-body) | HIGH          | Posterior Deltoid, Rhomboids      |
| Upright Row                | LOW           | Medial Deltoid, Upper Trapezius   |
| Cable Shoulder Press       | LOW-MID       | All three deltoid heads, Triceps  |
| Cable Shrugs               | LOW           | Upper Trapezius, Levator Scapulae |

## 8.4 Arms — Biceps & Triceps

| Exercise                   | Pulley Height | Primary Muscles                       |
|----------------------------|---------------|---------------------------------------|
| Bicep Curl (cable)         | LOW           | Biceps Brachii, Brachialis            |
| Preacher Curl              | LOW           | Biceps Brachii (short head isolation) |
| Incline Dumbbell Curl sim. | LOW           | Biceps Long Head (stretch emphasis)   |
| Tricep Pushdown            | HIGH          | Triceps Brachii (all 3 heads)         |
| Overhead Tricep Extension  | HIGH          | Triceps Long Head                     |
| Tricep Kickbacks           | MID           | Triceps Lateral Head                  |
| Rope Pushdown              | HIGH          | Triceps (lateral/medial heads)        |

## 8.5 Core & Functional

| Exercise                   | Pulley Height | Primary Muscles                                |
|----------------------------|---------------|------------------------------------------------|
| Cable Woodchopper (H → L)  | HIGH          | Obliques, Core, Shoulders                      |
| Pallof Press               | MID           | Transverse Abdominis, Obliques — anti-rotation |
| Cable Crunch               | HIGH          | Rectus Abdominis, Obliques                     |
| Core Rotation              | MID           | External/Internal Obliques                     |
| Landmine Press (simulated) | LOW           | Shoulder, Core, Tricep                         |
| Cable Pull-Through         | LOW           | Glutes, Hamstrings, Erector Spinae             |

## 8.6 Legs & Glutes

| Exercise                  | Pulley Height | Primary Muscles                    |
|---------------------------|---------------|------------------------------------|
| Cable Squat               | LOW           | Quadriceps, Glutes, Hamstrings     |
| Hip Abduction             | LOW           | Gluteus Medius and Minimus         |
| Cable Glute Kickback      | LOW           | Gluteus Maximus                    |
| Romanian Deadlift (cable) | LOW           | Hamstrings, Glutes, Erector Spinae |
| Split Squat (cable)       | LOW           | Quadriceps, Glutes, Balance        |

## 8.7 Pull-Up Bar Exercises

| Exercise              | Pulley Height | Primary Muscles               |
|-----------------------|---------------|-------------------------------|
| Wide Overhand Pull-Up | Pull-Up Bar   | Latissimus Dorsi, Biceps      |
| Chin-Up               | Pull-Up Bar   | Biceps, Latissimus Dorsi      |
| Neutral Grip Pull-Up  | Pull-Up Bar   | Lats, Brachialis, Core        |
| Hanging Leg Raise     | Pull-Up Bar   | Rectus Abdominis, Hip Flexors |
| Hanging Knee Raise    | Pull-Up Bar   | Lower Abdominals, Hip Flexors |

## 9. Maintenance Schedule

**i NOTE:** Regular maintenance ensures safe operation and extends machine lifespan. Sweat contains corrosive salts — always wipe down after every use. Monthly torque checks are mandatory.

| Frequency       | Component            | Task                                                     | Standard              |
|-----------------|----------------------|----------------------------------------------------------|-----------------------|
| After every use | Both cables (#25)    | Full visual inspection — fraying, kinking, corrosion     | Replace if ANY damage |
| After every use | Frame surfaces       | Wipe all steel with damp cloth — prevent sweat corrosion | Dry surface           |
| After every use | Pulleys              | Confirm carriages slide freely — clean debris            | Smooth movement       |
| Weekly          | All bolts            | Hand torque check — tighten any loose bolts              | No movement           |
| Weekly          | Selector pins        | Test pin through all plate positions both sides          | Free movement         |
| Monthly         | All M10 bolts        | Full torque wrench check                                 | 55-60 Nm (×90/80/70)  |
| Monthly         | M10×45 bolts         | Arch arm connection torque check                         | 25-30 Nm              |
| Monthly         | M8 bolt #33          | Cable clamp bolt — CRITICAL re-torque                    | 12-15 Nm EACH         |
| Monthly         | Pulley wheels        | Spin each pulley — smooth and silent                     | No grinding           |
| Monthly         | Frame inspection     | Check all welds and connections for cracks               | No damage             |
| Monthly         | Column rails         | Wipe and apply dry silicone spray                        | Free carriage slide   |
| 3 Monthly       | Cable crimp ends     | Inspect terminations for spreading or fraying            | Replace if damaged    |
| Annually        | All fasteners        | Complete re-torque all structural fasteners              | Per specification     |
| Annually        | Professional service | Recommended for semi-commercial/studio use               | All stations          |

**⚠ WARNING:** CABLE REPLACEMENT: Replace wire ropes (#25) at the FIRST sign of fraying, kinking, rust or strand breakage. Never use a damaged cable. Order replacements by contacting [phfitness.nl](https://phfitness.nl) and quoting model: Cable Crossover.

## 10. Troubleshooting

| Problem                     | Likely Cause                            | Solution                                                                         |
|-----------------------------|-----------------------------------------|----------------------------------------------------------------------------------|
| Cable jumps off pulley      | Cable routed incorrectly; M8 bolt loose | Unload completely. Re-route per Fig. 8. Retighten M8 bolt #33 to 12-15 Nm.       |
| Cable moves jerkily         | Cable off pulley groove; dry pulley     | Unload; re-seat cable in all grooves. Apply dry silicone spray to pulleys.       |
| Pulley carriage slips       | Locking knob not fully engaged          | Turn knob clockwise with firm force. Tug cable to confirm zero movement.         |
| Machine rocks / vibrates    | Base bolts loose; floor uneven          | Tighten all M10×90 base bolts to 55-60 Nm. Check floor is level.                 |
| Weight stack rattles        | Guide rod dry; plate misalignment       | Apply machine oil to guide rods. Realign plates. Check selector pin seats fully. |
| Cable grinding noise        | Pulley groove dirty or dry              | Clean all grooves. Apply dry silicone spray to all pulley axles.                 |
| Frame creaks under load     | Structural bolt loosening               | Full torque check all M10 bolts. Do not train until resolved.                    |
| Carriage won't slide freely | Column rail dirty or corroded           | Clean rail with damp cloth. Apply dry silicone spray.                            |
| Pull-up bar creaks          | Arch arm bolts loosened                 | Re-torque M10×90 (#26) and M10×45 (#29) arch arm bolts.                          |
| Low cable has no tension    | Cable #25 misrouted at lower pulley     | Check cable passes through MIDDLE of component #10 per Fig. 8.                   |

## 11. Warranty & Customer Support

### 11.1 Warranty Terms

|                  |                                                                  |
|------------------|------------------------------------------------------------------|
| Warranty Period  | 2 years from original date of purchase                           |
| Frame            | Covered — manufacturing defects and weld failures                |
| Weight Stacks    | Covered — manufacturing defects                                  |
| Cables & Pulleys | Covered — manufacturing defects (normal wear excluded)           |
| Pull-Up Bar      | Covered — manufacturing defects                                  |
| NOT Covered      | Misuse, overloading, modifications, normal wear, cosmetic damage |

### PH FITNESS

Website: [phfitness.nl](https://phfitness.nl)

Mail: [support@phfitness.nl](mailto:support@phfitness.nl)

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