

**QHYCCD**

# Adapter Systems



**2023**

# Contents

Introduction.....	2
Table1. Combo Adapter Kits .....	3
Diagram Combo A1 - QHY294M / QHY163M with CFW3M-US and Medium OAG.....	5
Diagram Combo A2 - QHY294M / QHY163M with CFW3M-US and Canon Lens Adapter .....	6
Diagram Combo A3 - QHY294M / QHY163M with CFW3M-US and Nikon Lens Adapter.....	7
Diagram Combo B1-1 - QHY268M / QHY600M-PH SBFL with CFW3L or CFW3M-US and OAGM.....	8
Diagram Combo B1-2 - QHY268M / QHY600M SBFL with CFW3L and OAGM.....	9
Diagram Combo B1-3 - QHY268M with CFW3M US and OAGM .....	9
Diagram Combo B1-4 – QHY268M with CFW3M US and OAG .....	10
Diagram Combo B1-5 – QHY268M with CFW3M US.....	10
Diagram Combo B1-6 – QHY268M / QHY600M-PH SBFL with CFW3L and Canon Lens Adapter.....	11
Diagram Combo B1-7 – QHY268M / QHY600M-PH SBFL with CFW3L and Nikon Lens Adapter.....	11
Diagram Combo C1 - QHY600M-PH with CFW3L.....	12
Diagram Combo D1 - QHY600C-PH / 268C (Before 7/23) / 410 C / 367C / 128C / 247C / 168C with OAGM.....	13
Diagram Combo D2 - QHY600C-PH / 268C (Before 7/23) / 410 C / 367C / 128C / 247C / 168C with Canon Lens Adapter .....	14
Diagram Combo D3 - QHY600C-PH/268C (Before 7/23) / 410 C / 367C / 128C / 247C / 168C with Nikon Lens Adapter .....	14
Diagram Combo E1 - QHY533C / 294C / 163C / 183C Direct Telescope Connection or with Canon / Nikon Lens Adapter .....	15
Diagram Combo F1 - QHY533M with CFW3S-SR and OAGS or Canon / Nikon Lens Adapter.....	17
Diagram Combo G1 - QH600C-PH SBFL / QHY268C (After 7/23) with Filter Drawer and OAGM.....	19
All-In-One Accessory Packages .....	20
Table 2. All-in-One Adapter Kits .....	21
Table 3. Single Adapter Pieces .....	22
Table 4. Changes to Existing Accessory Adapter Sets .....	23
Appendix A – New (2023) OAGL V2 with QHY600M-PH SBFL and CFW3L or CFW3XL .....	24
Appendix B – New (2023) Filter Drawer Accessory.....	25
Appendix C – Attaching a QHY5III Series camera to a CFW3S Filter Wheel.....	26
Appendix D – Attaching a QHY600M-PH or QHY461M-PH to a CFW3XL Filter Wheel .....	27
Appendix E – Attaching a QHY533M to a CFW3S-SR Filter Wheel .....	28

## Introduction

QHY offers a very comprehensive and flexible adapter system that allows our cameras to achieve focus with a variety of accessories, including camera lens adapters, off-axis guiders, filter wheels and numerous optical systems. The many potential combinations of these items produce an equal variety of back-focus distances that must be considered to make it all work together. This variety and flexibility, however, also can be confusing particularly for new users. Therefore, based on users' feedback we have decided to include a fixed combination of adapter kits to meet mainstream needs of most users (e.g., Multi-Purpose Coma Corrector, Canon lens adapter, Nikon lens adapter, etc.). Users can choose the corresponding adapter set according to their needs to ensure focus. There is no need to measure and calculate the back focal length, choose adapters, and customize screws as before. We will directly provide the calculated results and corresponding adapters.

Below we list all the kits that we will provide in 2023. For retail customers, the total cost is down because they don't need to pay for the parts they won't use to match their particular needs. With the release of these kits we no longer supply single adapter pieces for the most part (except a few models as shown in Table 3).

If you have no special requirements for the back focal length, you can use a standard T-Mount. If you need a specific back focal length, you can select one of the specific adapter sets to meet your requirements or use QHYCCD's All-In-One adapter kit to combine your own set of spacer rings to meet your particular requirements (See below).

**Please also note** that the Combo kit drawings, below, depict how the adapters and other items are organized with various products such as filter wheels or an OAG, etc., but the adapter kits include only the adapter rings and screws and do not include the other products such as OAG, Filter Wheel and/or Camera.

Table1. Combo Adapter Kits

Model	Product No.	Compatible with	To Connect	Kit Includes	Note
Combo A1	020100	QHY294M / 163M with CFW3M-US and (OAGM)*	55mm BFL M48 Threads	5mm M54-M48 Threads Adapter*1 3mm Spacer*1 0.5mm Spacer*1 10mm Spacer*1 22mm M3 Screws*8	This Combo A1 is included as a standard accessory with the QHY294M
Combo A2	020101	QHY294M / 163M with CFW3M-US	Canon EF Lens	10mm M54 Canon EF Adapter*1 4mm M54 Screwed Adapter*1 3mm Spacer*1 1mm Spacer*1 Cam Top Adapter (originally 020063) 10mm M3 Screws*8	—
Combo A3 (Nikon Adapter)	020102	QHY294M/163M with CFW3M-US	Nikon F Lens	10mm M54 Nikon F Adapter	Same part as old # 020073
Combo B1	020103	QHY268M with CFW3L or CFW3M-US and (OAGM)* or QHY600M-PH SBFL with CFW3L and (OAGM)*	55mm/56mm BFL M48 Threads  55mm/56mm BFL M54 Threads	5mm M54-M48 Threads Adapter*1 5mm M54-M54 Threads Adapter*1 3mm Spacer*3 1mm Spacer*1 10mm Spacer*1 24mm M3 Screws*8 28mm M3 Screws*8	This Combo B1 is included as a standard accessory with (a) QHY268M and (b) QHY600M-PH SBFL version

NOTE: Former Combo Kits B2 and B3 were essentially single adapters and have been removed from this table as Combo Kits, however, the same adapters continue to be offered as single piece adapters. The same adapters are offered as single adapters. See pages 23-24.

Table1. Combo Adapter Kits (Cont'd)

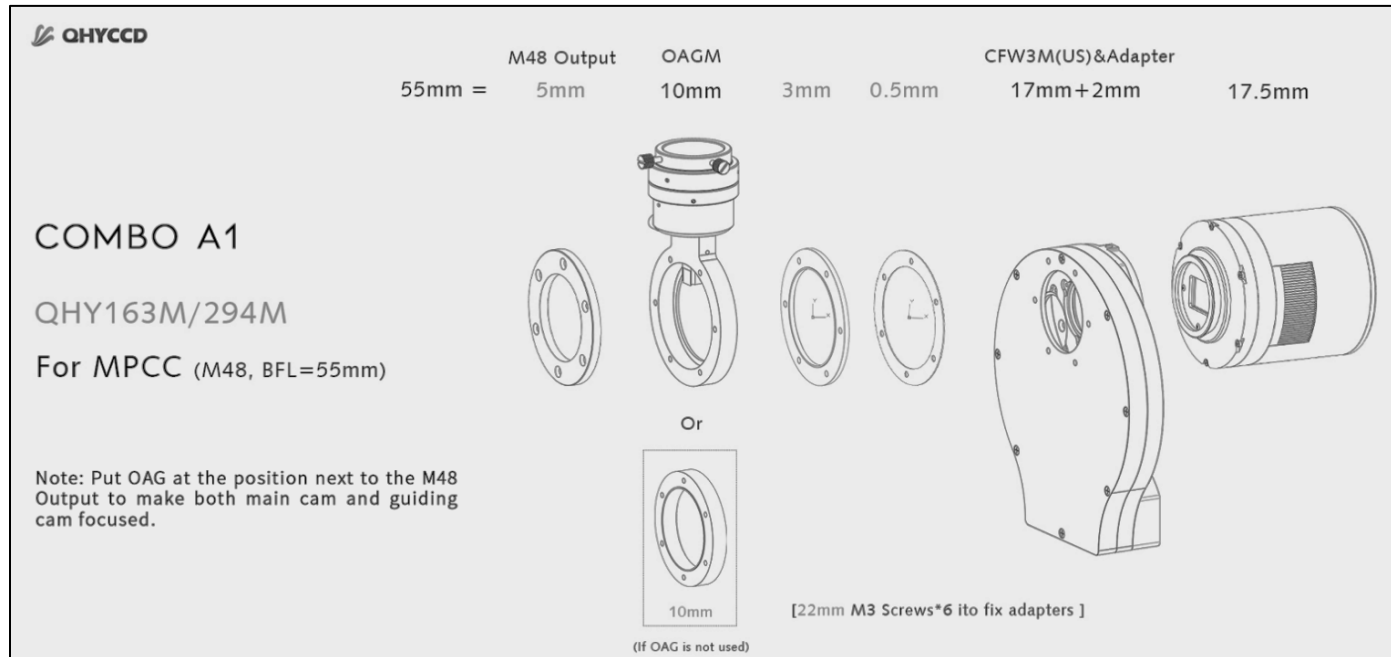
Model	Product No.	Compatible with	To Connect	Kit Includes	Note
Combo C1	020106	QHY600M-PH+CFW3L	55mm/56mm BFL M48 Threads  55mm/56mm BFL M54 Threads	5mm M54-M48 Threads Adapter*1 5mm M54-M54 Threads Adapter*1 1mm Spacer*1 7mm Spacer*1 14mm M3 Screws*8	C1 is supplied as a standard accessory with QHY600M-PH
Combo D1	020107	QHY268C (Before 7/23) QHY600C-PH / QHY168C QHY247C / QHY128C / QHY410C QHY367C	55mm M48 Threads	5mm M54 to M48 Adapter*1 2.5mm 2inch Filter Fixer (Original Name 020055) 10mm Spacer*1 14mm Spacer*1 36mm M3 Screws*8	D1 is supplied as a standard accessory with QHY600C QHY268C (Version Before 2023)
Combo D2	020108	QHY268C (Before 7/23) QHY600C-PH / QHY168C QHY247C / QHY128C / QHY410C QHY367C	Canon EF Lens	10mm M54 Canon EF Adapter*1 4mm M54 Screwed Adapter*1 2.5mm 2inch Filter Fixer (Original Name 020055) 3mm Spacer*1 1mm Spacer*1 14mm M3 Screws*8	-
Combo D3	020109	QHY268C (Before 7/23) QHY600C-PH / QHY168C QHY247C / QHY128C / QHY410C QHY367C	Nikon F Lens	12mm M54 Nikon F Adapter*1 4mm M54 Screwed Adapter*1 2.5mm 2inch Filter Fixer (Original Part # 020055) 3mm Spacer*1 1mm Spacer*1 0.5mm Spacer*1 14mm M3 Screws*8	-
Combo E1	020110	QHY294C / QHY163C QHY183C / QHY533C	55mm M48 Threads	Three Customized adapters and a 0.5mm spacer	This Combo E1 is included as a standard accessory with the QHY533C

Table1. Combo Adapter Kits (Cont'd)

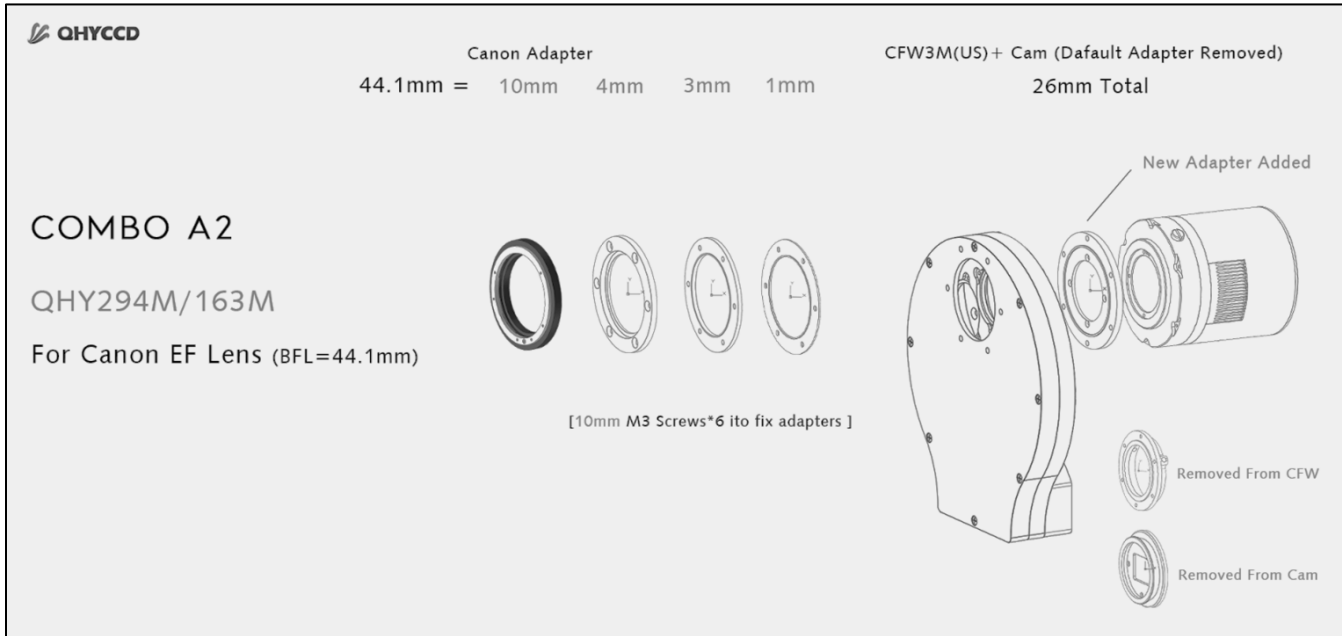
Model	Product No.	Compatible with	To Connect	Kit Includes	Note
Combo F1	020120	QHY533M	55mm M48 Threads	8mm M42-M48 Threads Adapter*1 3mm Spacer*3 10mm Spacer*1 23mm M3 Screws*8	This Combo F1 is included as a standard accessory with the QHY533M
Combo G1	020133	QHY268C (After 7/23) with OAGM QHY600C-PH SBFL with OAGM	55mm/56mm BFL M48 Threads 55mm/56mm BFL M54 Threads	5mm M54-M48 Threads Adapter*1 5mm M54-M54 Threads Adapter*1 3mm Spacer*2 1mm Spacer*1 10mm Spacer*1 19.5mm Filter Drawer*1 7mm M3 Screws*4 45mm M3 Screws*6	This Combo G1 is included as a standard accessory with (a) QHY268C (Ver.2023) and (b) QHY600C-PH SBFL version

\* (OAGM): Means the Combo kit can be used with or without the OAG.

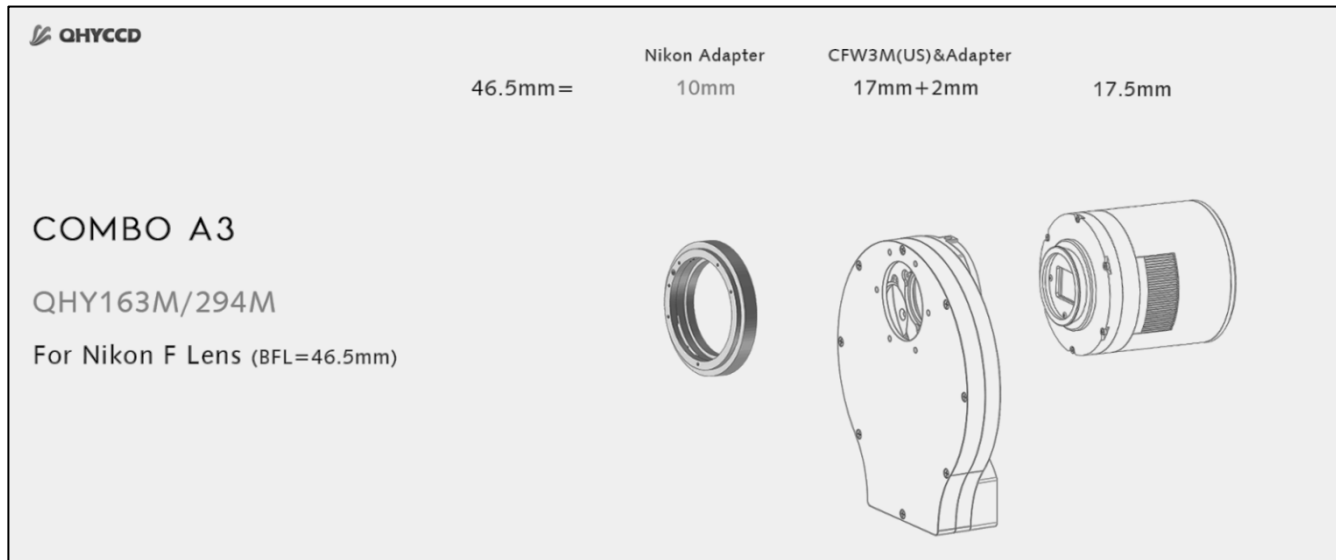
Diagram Combo A1 - QHY294M / QHY163M with CFW3M-US and Medium OAG



# Diagram Combo A2 - QHY294M / QHY163M with CFW3M-US and Canon Lens Adapter



## Diagram Combo A3 - QHY294M / QHY163M with CFW3M-US and Nikon Lens Adapter



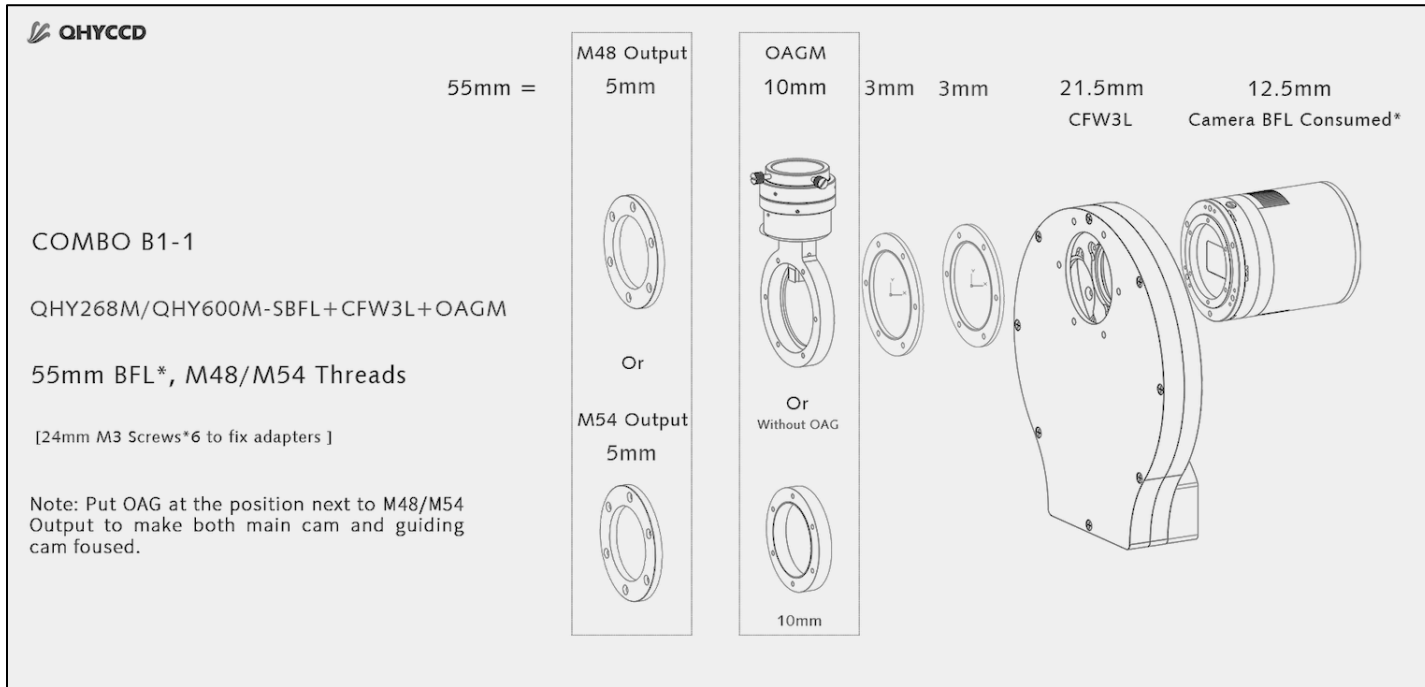
The New Combo B1 is designed to be more flexible to achieve multiple output specifications. You can achieve a 55mm or 56mm back focus with either M48 or M54 exit threads according to your needs. 55mm backfocus with M48 or M54 threads is suitable for standard field flatteners and multiple purpose coma correctors (MPCC) while 56mm backfocus M54 threads is commonly needed for Takahashi reflectors.

For the QHY600M-PH SBFL we suggest you choose QHYCFW3L and either the QHYOAGM or QHYOAGL. When combined with the OAGL, combo B1 is not used.

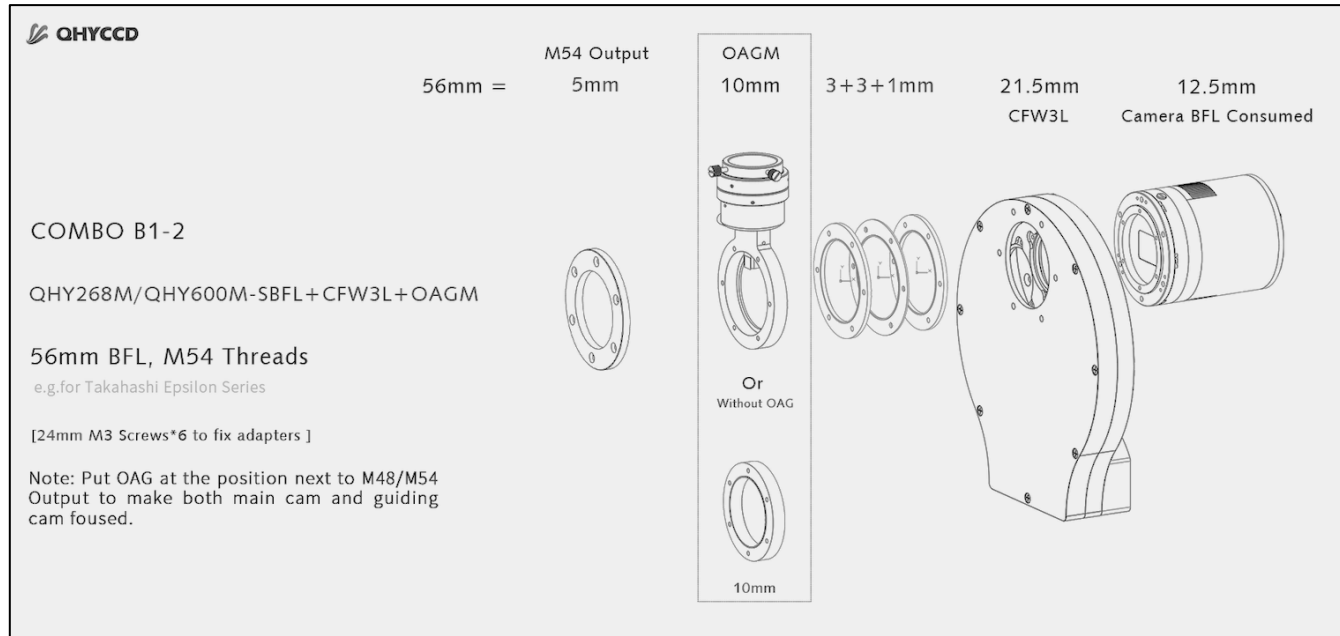
For the QHY268M, we estimate that 36mm filters are acceptable if your optical system is f/4 or slower. For systems faster than f/4 you should use 2-inch filters to avoid vignetting.



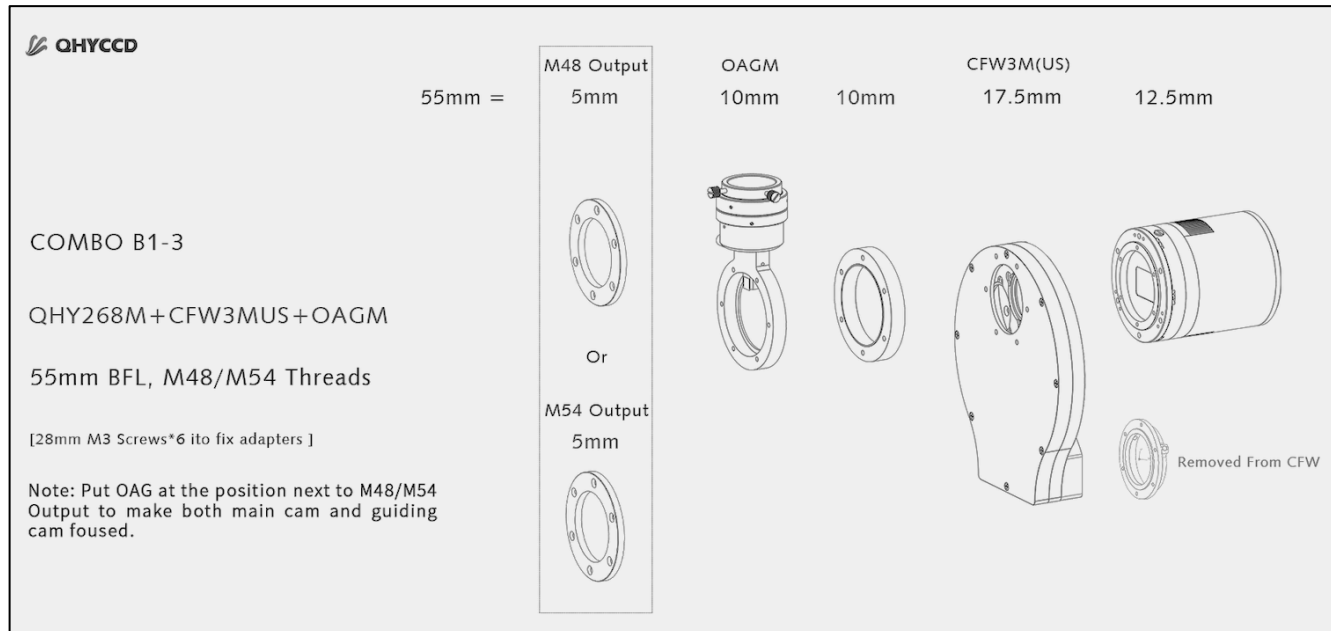
Diagram Combo B1-1 - QHY268M / QHY600M-PH SBFL with CFW3L or CFW3M-US and OAGM



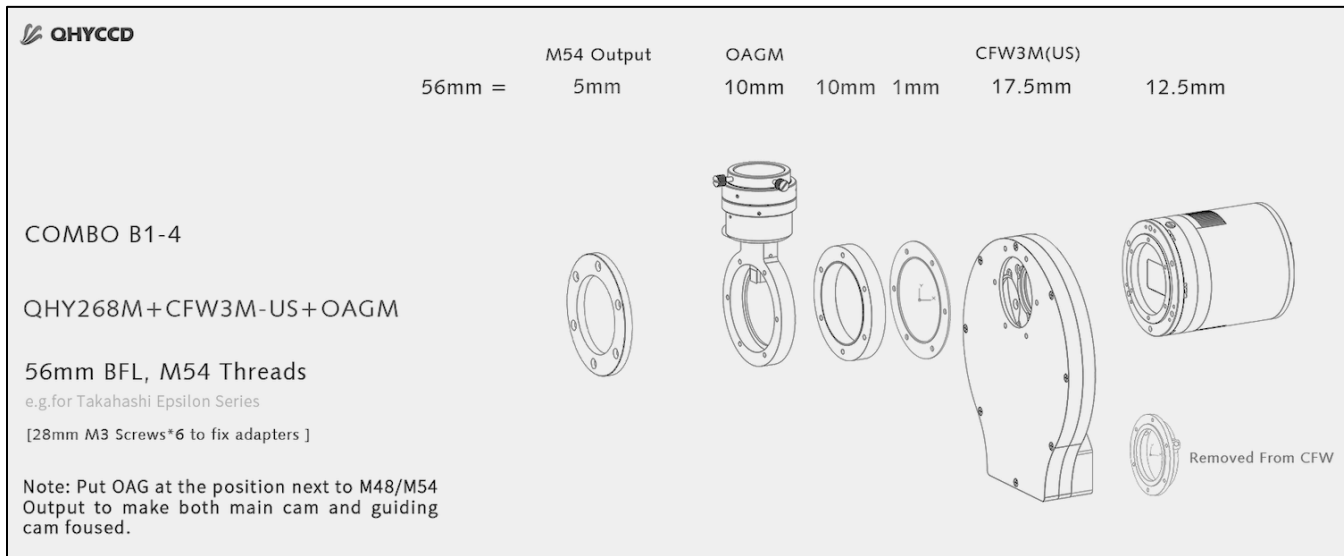
## Diagram Combo B1-2 - QHY268M / QHY600M SBFL with CFW3L and OAGM



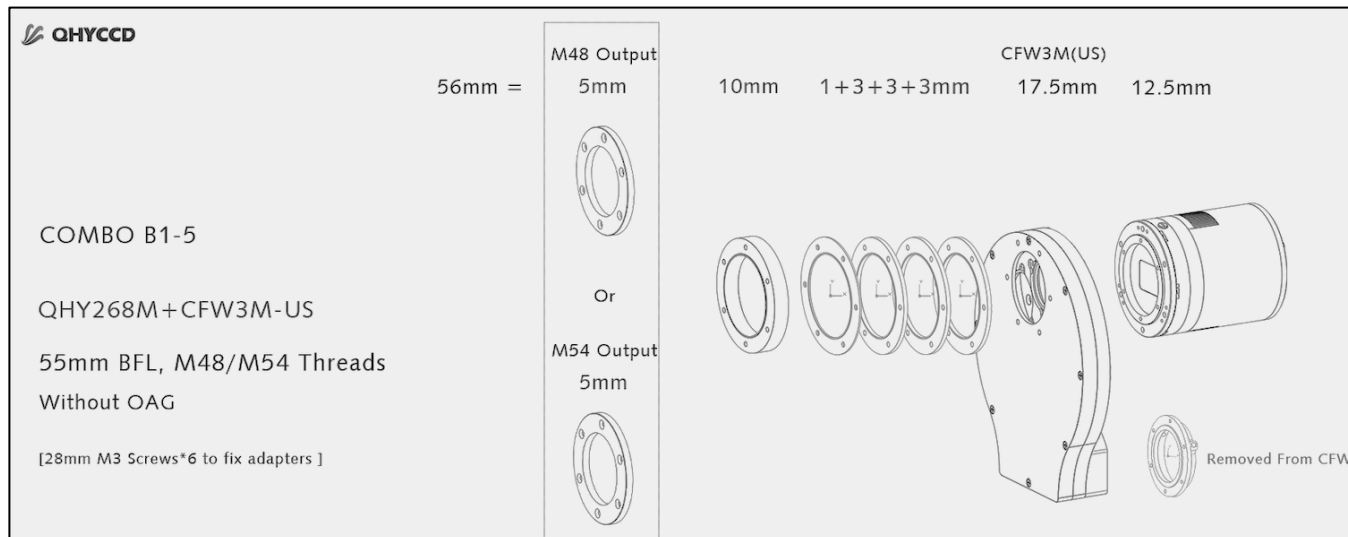
## Diagram Combo B1-3 - QHY268M with CFW3M US and OAGM



## Diagram Combo B1-4 – QHY268M with CFW3M US and OAG



## Diagram Combo B1-5 – QHY268M with CFW3M US

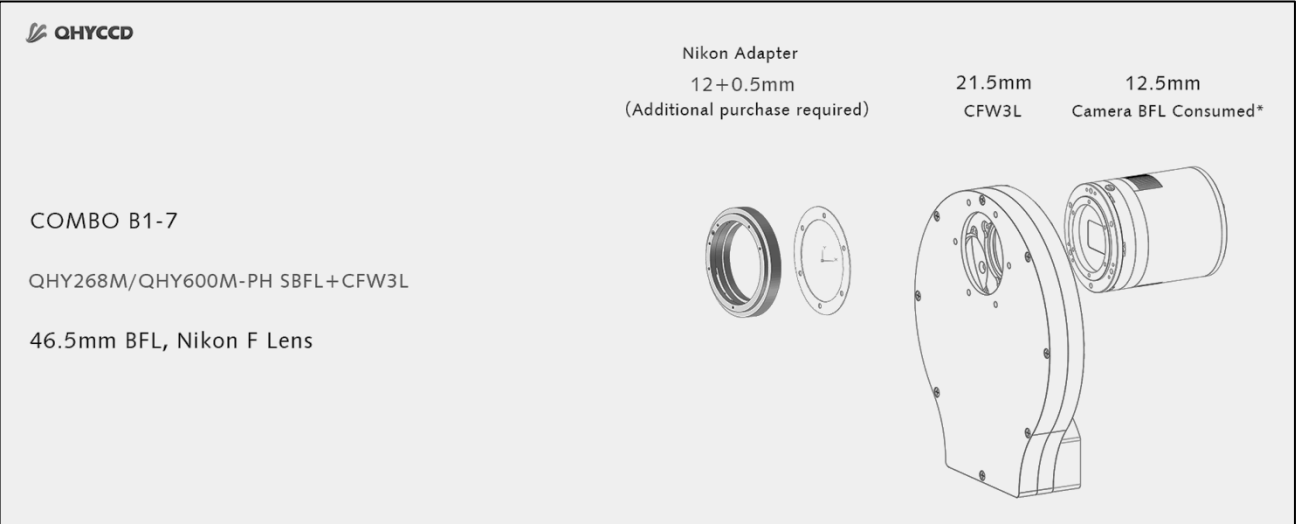


The QHY600M-PH SBFL and QHY268M with CFW3L filter wheel can fit an optional Canon EF or Nikon F Lens Adapter without additional spacers. Smaller filter wheels may require additional spacers.

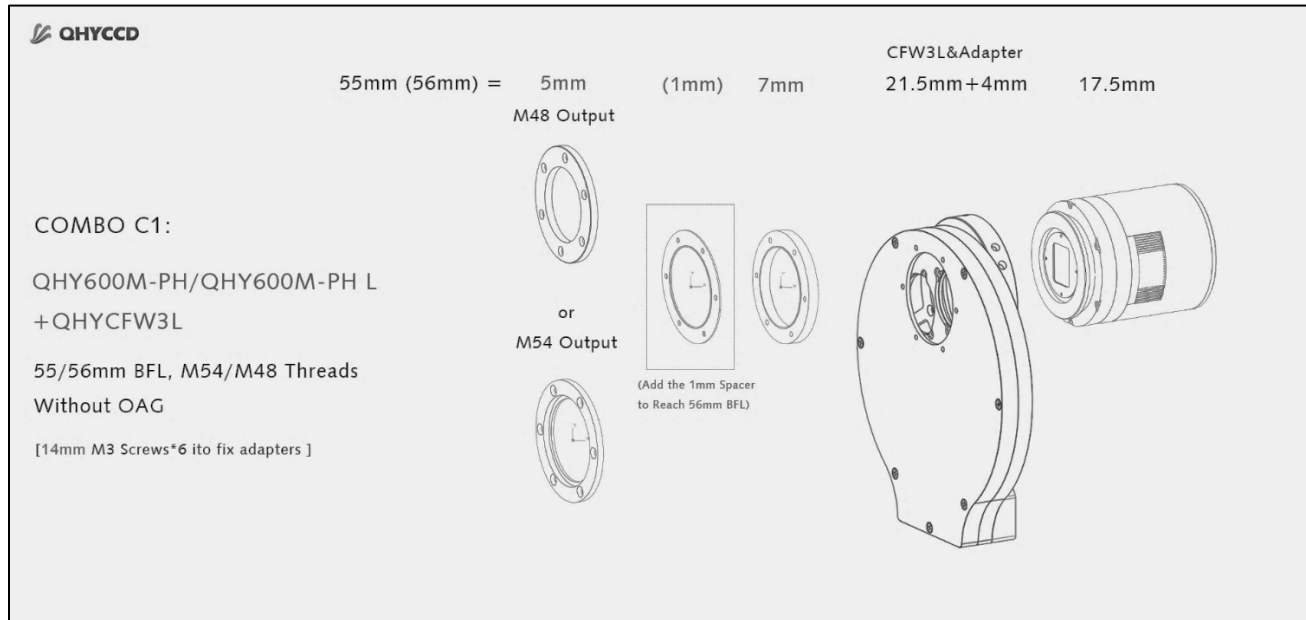
Diagram Combo B1-6 – QHY268M / QHY600M-PH SBFL with CFW3L and Canon Lens Adapter



Diagram Combo B1-7 – QHY268M / QHY600M-PH SBFL with CFW3L and Nikon Lens Adapter



## Diagram Combo C1 - QHY600M-PH with CFW3L



Note: Combo C1 is the solution without OAG. The QHY600M-PH or QHY600M-L with CFW3L and OAG result in a backfocus greater than 55mm. Therefore, if you must limit this BF distance to 55mm due to a corrector lens or DSLR lens, we recommend the QHY600M-PH SBFL.

If you need more than 7 x 50mm filter positions for the QHY600, you can use the CFW3XL filter wheel with 9 x 50mm filter carousel. See Appendix D

Diagram Combo D1 - QHY600C-PH / 268C (Before 7/23) / 410 C / 367C / 128C / 247C / 168C with OAGM

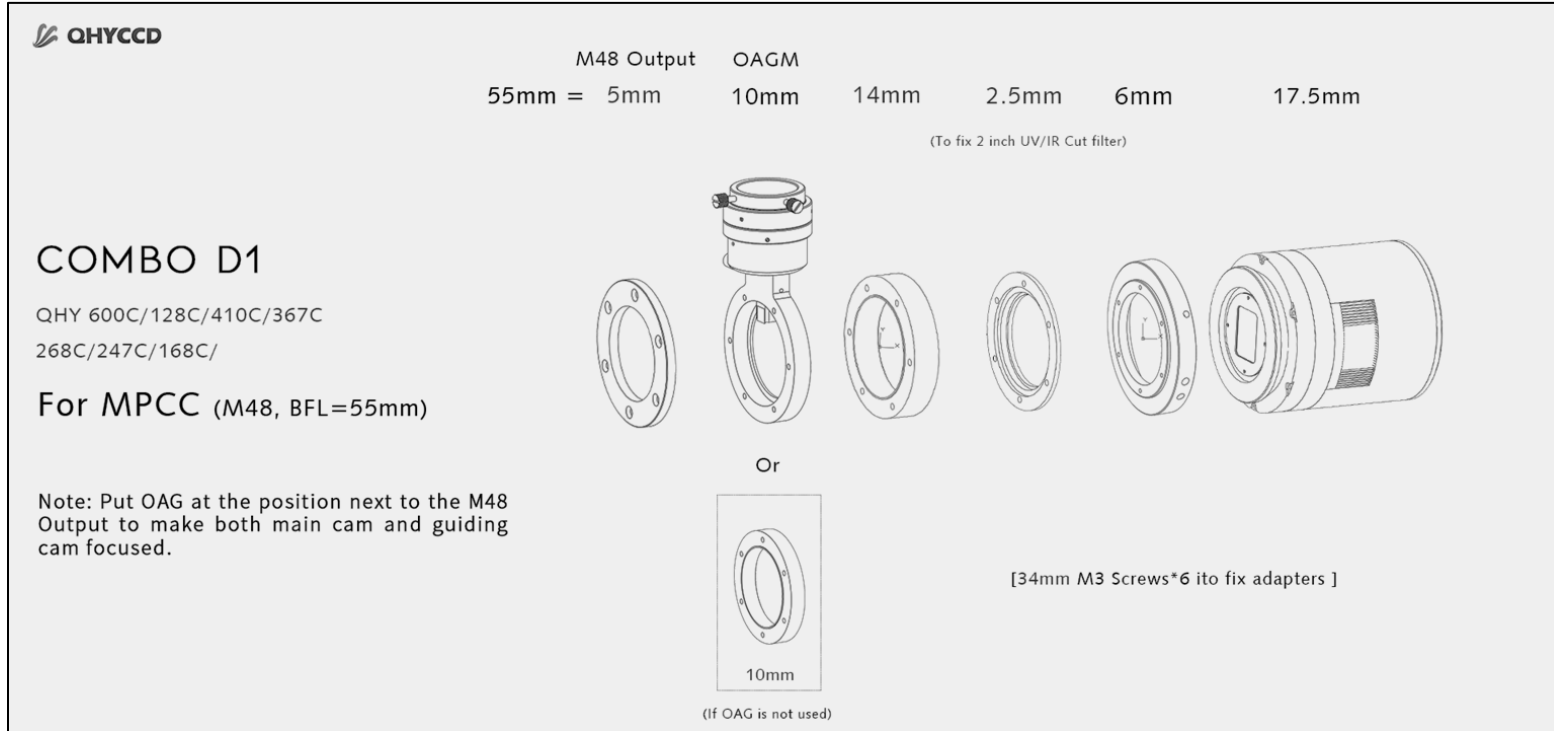


Diagram Combo D2 - QHY600C-PH / 268C (Before 7/23) / 410 C / 367C / 128C / 247C / 168C with Canon Lens Adapter

**QHYCCD**

Canon Adapter  
 44.1mm = 10mm 4mm 3mm 1mm 2.5mm 6mm 17.5mm  
 (To fix 2 inch UV/IR Cut filter)

COMBO D2:  
 QHY600C-PH/268C (Version before 2023)  
 QHY128C/410C/367C/247C/168C/  
 For Canon EF Lens (BFL=44.1mm)  
 [14mm M3 Screws\*6 to fix adapters ]

Diagram Combo D3 - QHY600C-PH/268C (Before 7/23) / 410 C / 367C / 128C / 247C / 168C with Nikon Lens Adapter

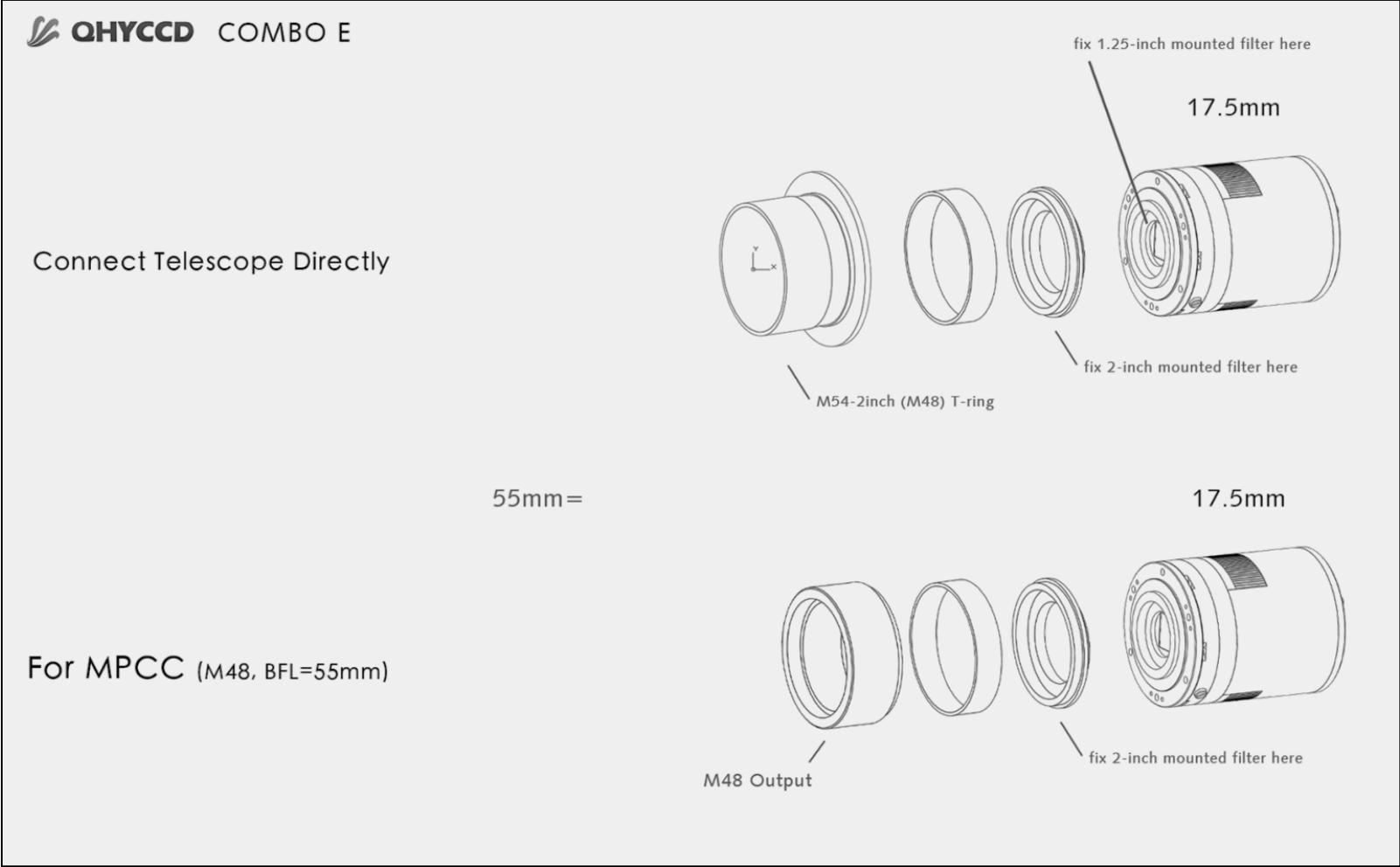
**QHYCCD**

Nikon Adapter  
 46.5mm = 12mm 4mm 3mm 1mm 0.5mm 2.5mm 6mm 17.5mm  
 (To fix 2 inch UV/IR Cut filter)

COMBO D3:  
 QHY600C-PH/268C (Version before 2023)  
 QHY128C/410C/367C/247C/168C/  
 For Nikon F Lens (BFL=46.5mm)  
 [14mm M3 Screws\*6 to fix adapters ]

Diagram Combo E1- QHY533C / 294C / 163C / 183C Direct Telescope Connection or with Canon / Nikon Lens Adapter

Combo E1 is included as a standard accessory with the QHY533C. It can also be used with the QHY294C, QHY163C, QHY183C and other cameras with a similar body type.





### Diagram Combo E1- Continued

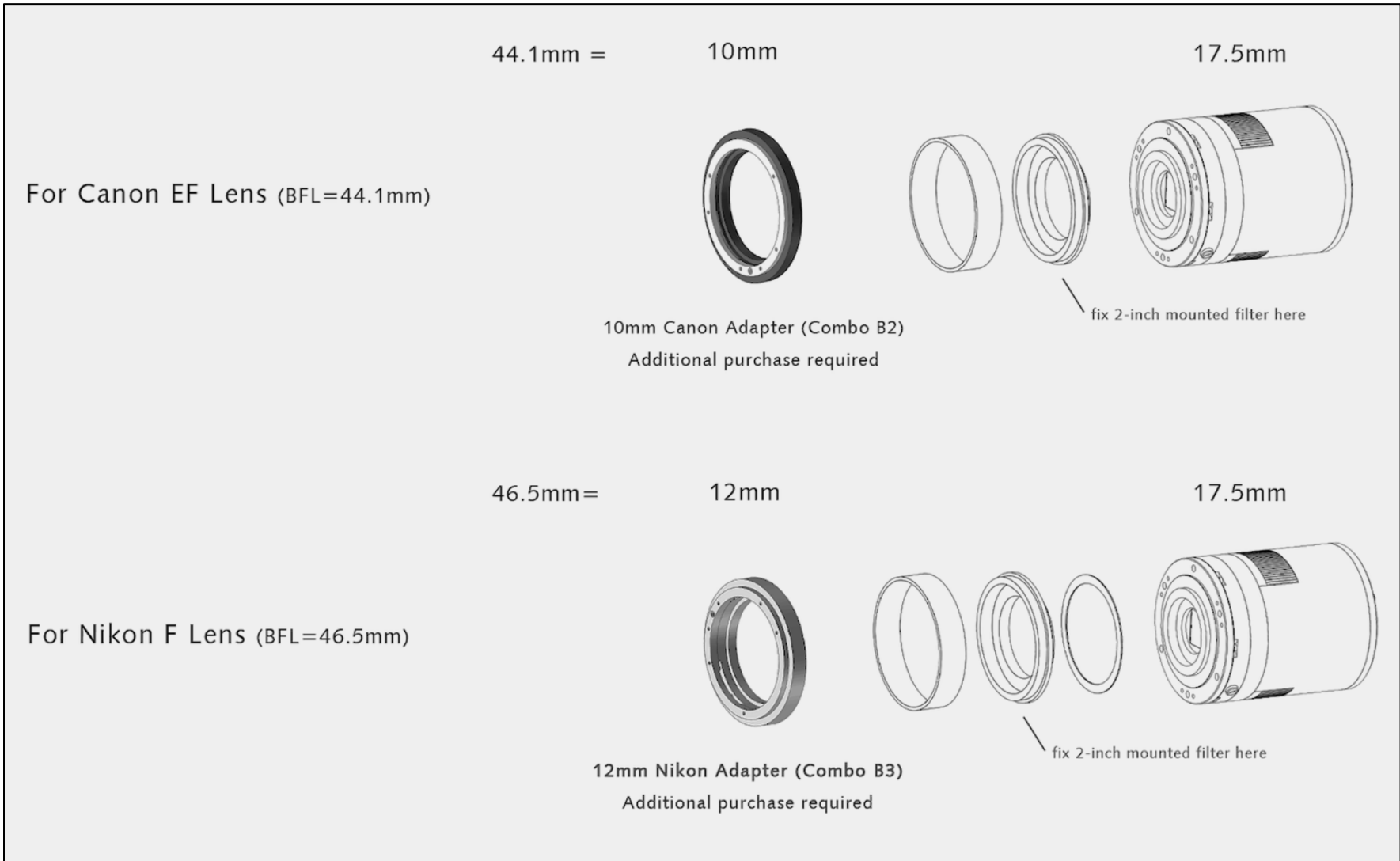
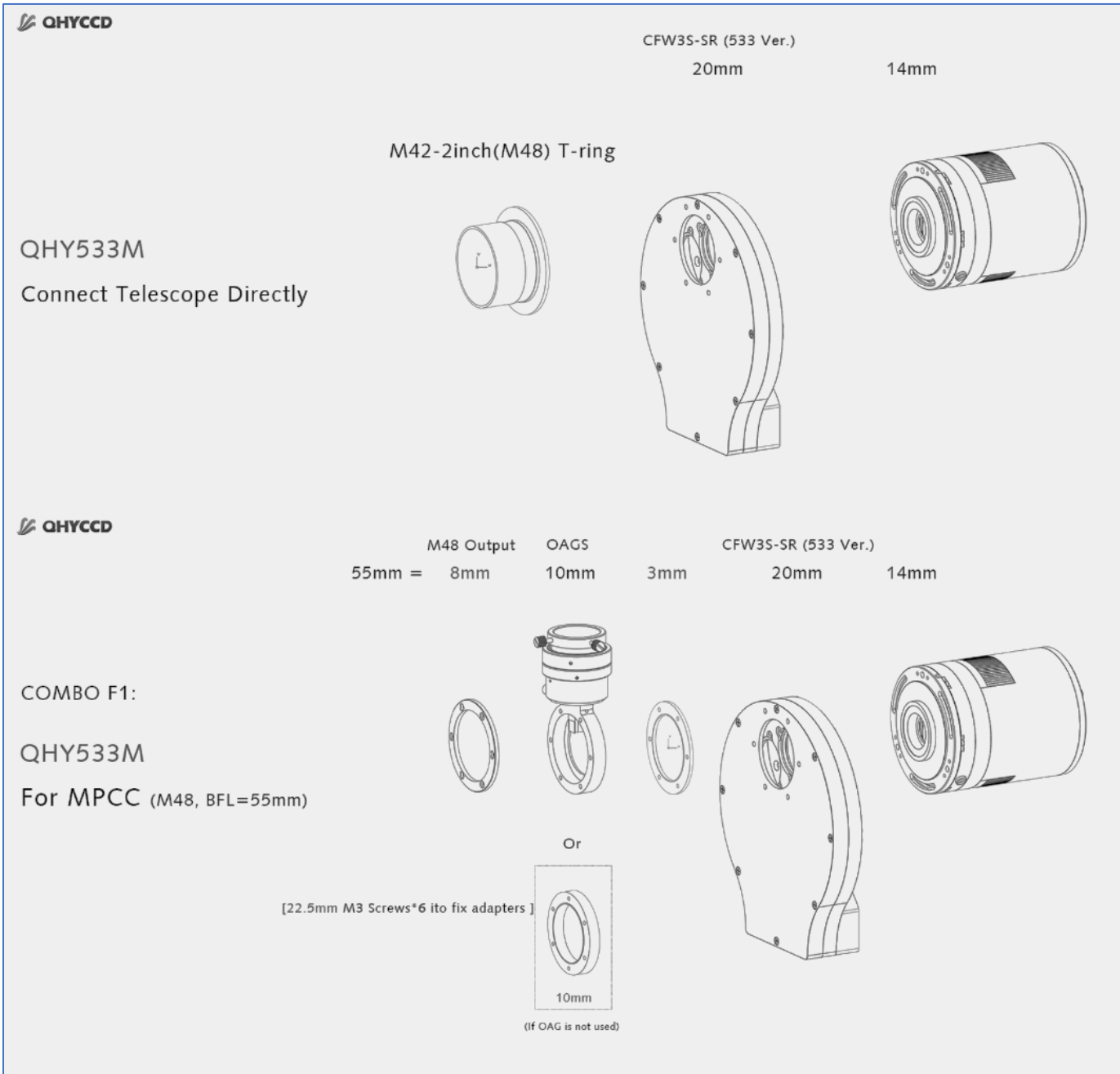


Diagram Combo F1- QHY533M with CFW3S-SR and OAGS or Canon / Nikon Lens Adapter



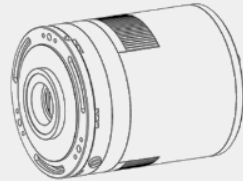
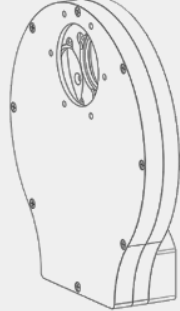

## Diagram Combo F1- Continued

**QHYCCD**

44.1mm = Canon Adapter(M42) 10mm CFW35-SR (533 Ver.) 20mm 14mm

**QHY533M**  
For Canon EF Lens (BFL=44.1mm)

\* Additional Purchase Required for M42 Canon EF (10mm)Adapter



**QHYCCD**

46.5mm = Nikon Adapter (M42) 12.5mm CFW35-SR (533 Ver.) 20mm 14mm

**QHY533M**  
For Nikon F Lens (BFL=46.5mm)

\* Additional Purchase Required for M42 Nikon F (12+0.5mm) Adapter

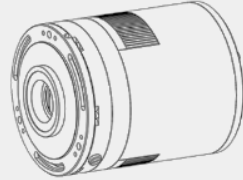
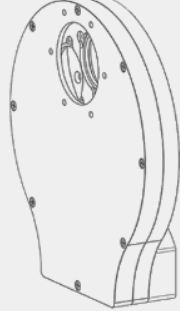

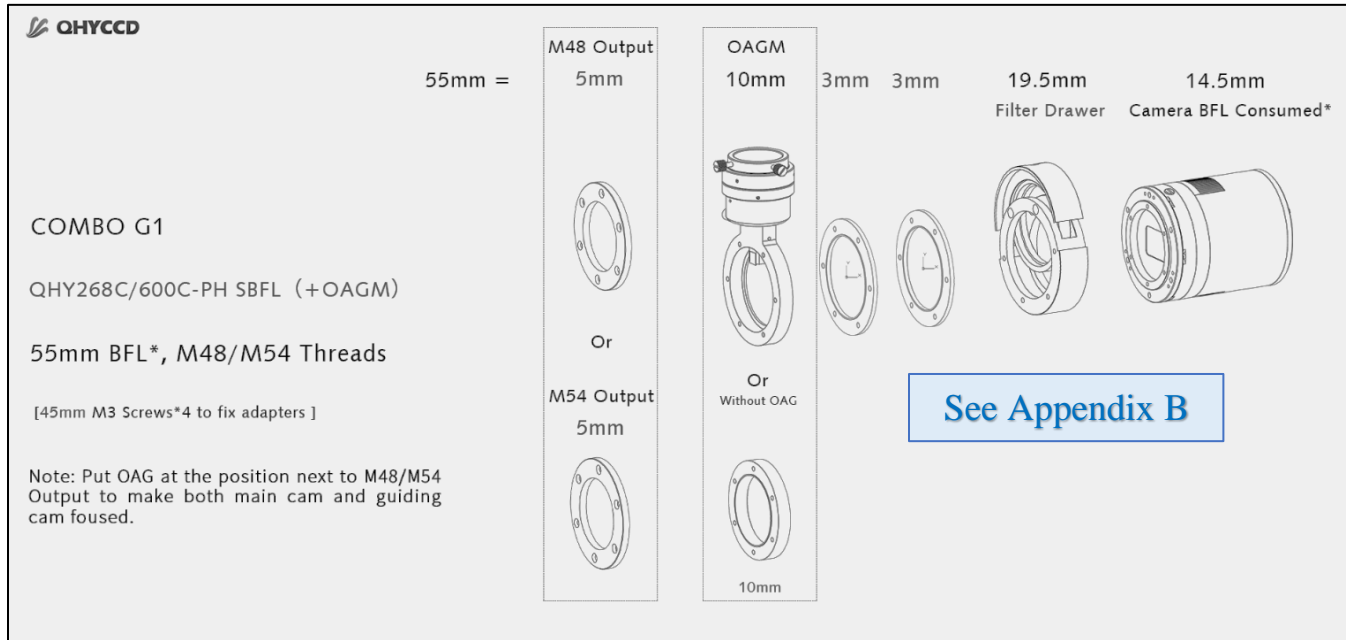


Diagram Combo G1- QH600C-PH SBFL / QHY268C (After 7/23) with Filter Drawer and OAGM



## All-In-One Accessory Packages

### **What if none of the above solutions meet my needs?**

First please confirm whether there are specific requirements of BFL on your equipment. If not, just use a standard T-ring to connect the telescope.

If you do have strict requirements of BFL, since 7/23 we provide 0.5mm and 1mm spacers as purchasable items for a precise adjustment.

If all the existing combo kits cannot meet your demand, such as special back focus requirements, we also offer M42 and M54 all-in-one adapter packages that contains nearly all of the adapters we provide in the kits: 0.5, 1, 2, 3, 7 and 14mm spacers can be combined to make any back focus needed from **0.5mm to 27.5mm**. In most cases, we recommend the M54 All-in-one Kit. The M42 All-in-one Kit is only suitable for use with the QHY183M and QHYCFW3S.

Table 2. All-in-One Adapter Kits

Model	Compatible with	Includes
M42 All-in-one Kit	QHY183M CFW3S-SR CFW3S-US OAGS	8mm M42 to M48 Adapter*1 3mm M42 Screwed Adapter*1 Cam Top Adapter (original name 020063)*1 0.5mm/1mm/2mm/3mm/7mm/10mm Spacer*1 21mm M3 Screws*8 10mm M3 Screws*8 12mm M3 Screws*8
M54 All-in-one Kit	All Cooled CMOS Cameras CFWM-SR CFWM-US CFWL OAGM	5mm M54 to M48 Adapter*1 3mm M54 to M42 Adapter*1 2.5mm 2inch Filter Fixer (Original Name 020055) *1 4mm M54 Screwed Adapter (Original name 020070)*1 Cam Top Adapter (original name 020063)*1 0.5mm/1mm/2mm/3mm/7mm/10mm/14mm Spacer*1 8mm M3 Screws*8 10mm M3 Screws*8 12mm M3 Screws*8 14mm M3 Screws*8 16mm M3 Screws*8 21mm M3 Screws*8 24mm M3 Screws*8 28mm M3 Screws*8 36mm M3 Screws*8 50mm M3 Screws*8

Table 3. Single Adapter Pieces












Model	Image	QHY Part #
10mm M54 Canon EF Adapter (Former Combo B2)		020104
10mm M54 Nikon F Adapter (Former Combo A3)		020073
12mm M54 Nikon F Adapter + 0.5mm Spacer (Former Combo B3)		020105
10mm M42 Canon EF Adapter		020072
12.5mm M42 Nikon F Adapter *		020098
19.5mm Filter Drawer **		020132
0.5mm M54 Spacer		020065
1mm M54 Spacer		020066
QHYCFW3 1.25inch Adapter		020113

Table 3. Single Adapter Pieces (Cont'd)

5mm M54-M54 Threads Adapter		020134
QHY600M-SBFL to CFW3XL Adapter (Standard accessory of CFW3XL beginning 2023)		020123
Various PoleMaster Adapters	—	—

\* 10mm M42 Nikon F Adapter (020074) will be discontinued after the new (020098) 12.5mm one is released

\*\* 2-inch Filter Holder (020076&020077) will be discontinued after the QHY Filter Drawer (020132) is released in mid-2023

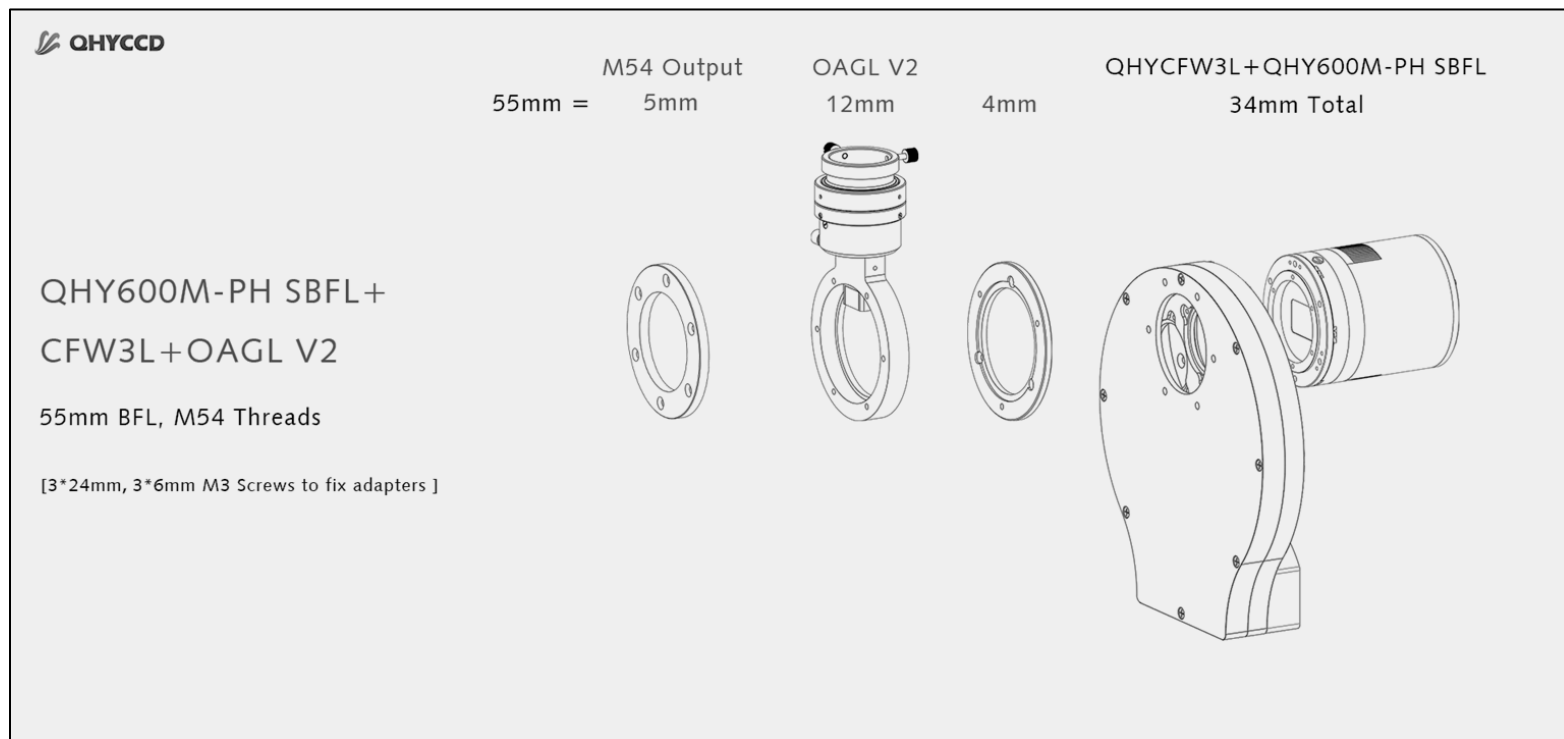
Table 4. Changes to Existing Accessory Adapter Sets

Model	Old Kit	New Kit
QHY268C (Version After 7/23)	Kit B4	Kit G1



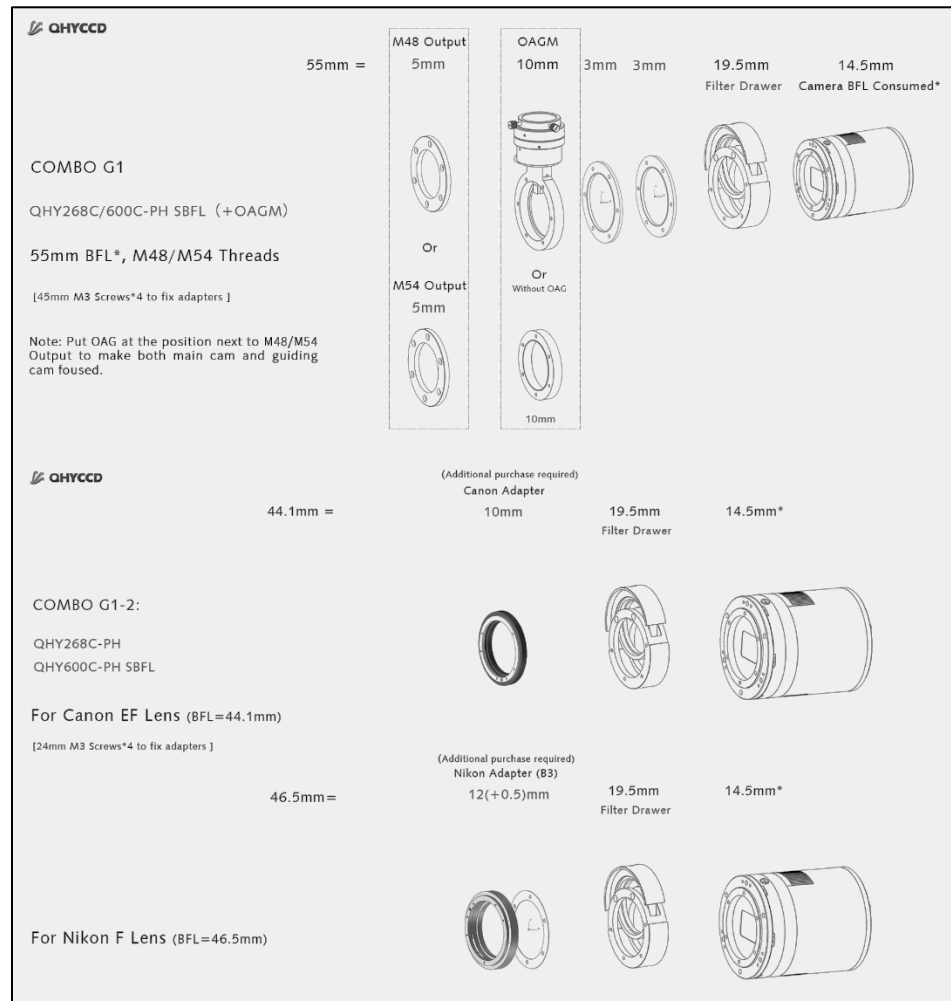
## Appendix A – New (2023) OAGL V2 with QHY600M-PH SBFL and CFW3L or CFW3XL

The QHYOAG L V2 is a new product in 2023. It will have a much larger prism than the current version of QHYOAG L making guide stars near the target easier to find. All the necessary adapters are included as standard accessories of the OAGL V2, so there's no need to purchase any other adapter kits. As of this writing, the OAGL V2 is still under development with details and price to be announced at a later date.



## Appendix B – New (2023) Filter Drawer Accessory

The Filter Drawer accessory is new in 2023. It will allow the user to insert and change single filters when using a color camera and OAG at a telescope or with Canon or Nikon camera lenses. As of this writing, the Filter Drawer is still under development with details and price to be announced at a later date.



## Appendix C – Attaching a QHY5III Series camera to a CFW3S Filter Wheel

Many planetary imagers prefer to use a monochrome camera and filters to capture planetary images. This new adapter is designed for attaching a QHY monochrome planetary camera (e.g., QHY5III200M, QHY5III174M, QHY5III462M, QHY5III678M) and QHYCFW3S (SR or US version):



QHY5III200M



QHY5III462 M/C



QHY5III678M/C

## Appendix D – Attaching a QHY600M-PH or QHY461M-PH to a CFW3XL Filter Wheel

### Filter Compatibility

The QHYCFW3XL (Extra Large) filter wheel comes with two filter carousels. One carousel holds 7 x 50mm square filters. The other carousel holds 9 x 50mm round unmounted (only) filters. The carousels are interchangeable. The 9 x 50mm is designed for maximum illumination using 50mm (up to 50.8mm) round unmounted filters. As of this update, It is not threaded for filters mounted in 2-inch cells with 48mm threads. However, 2- inch mounted filters may still be installed, if desired, by using the filter clips that are supplied for 50mm round unmounted filters.

### Camera Compatibility

Due to the larger filter area and large sensor size supported, the XL filter wheel has a larger mounting hole pattern than other QHY filter wheels (68mm diameter, center to center vs. 62mm). For this reason QHY provides a special bayonet style dovetail ring adapter that fits the XL filter wheel and allows the use of cameras like the QHY600M-PH with standard bodies and a dovetail ring front end such as the QHY600M-PH (Image A below). Other adapters designed for the medium and large filter wheels and cameras with front ends designed to mount directly to the hole pattern of the CFW3M and CFW3L filter wheels will not bolt directly to the CFW3XL filter wheel. An example of this is the QHY600M-SBFL camera which has no dovetail ring and a mounting hole pattern designed to be bolted directly to the CFW3L filter wheel. So, for the QHY600M-SBFL (or QHY268M-SBFL), QHYCCD offers a new adapter ring specifically for attaching a camera with SBFL body to the CFW3XL filter wheel (Image B below). This adapter ring can also be used to attach an OAG-L to the CFW3XL. See <https://www.qhyccd.com/qhy600sbfl-cfw3xl-adapter/>

**NOTE: The QHY461M-PH camera attaches directly to the CFW3XL filter wheel without the need of an adapter. .**



Image A.  
QHY600M-PH with QHYCFW3XL



Image B.  
Adapter for QHY600M-SBFL and QHYCFW3XL

## Appendix E – Attaching a QHY533M to a CFW3S-SR Filter Wheel

### New CFW3S-SR Configuration for the QHY533

The QHY533M monochrome camera has a threaded interface that can be directly connected to the small filter wheel. Concurrent with the release of the QHY533M, QHYCCD will offer a special version of the CFW3S filter wheel that can be assembled directly to the camera by the user without opening the filter wheel cover or removing the carousel. Due to the short back focus design, when the QHY533M is connected to the CFW3S filter wheel, a Nikon or Canon lens adapter may be added to connect a camera lens to the filter wheel and achieve infinity focus.

### Orientation Adjustment

The QHY533M uses threads to connect to the QHYCFW3S. Since the sensor has a square aspect ratio, its orientation may not matter to the user. However, if the user wants to change the orientation of the camera so that the x and y axis of the sensor align with the telescope's RA and Dec, for example, the user can adjust the front plate of the 533M to rotate the orientation of the camera to his/her liking.

