



# Trans-Blot® Turbo™ Transfer System

Getting to the Finish Line Faster



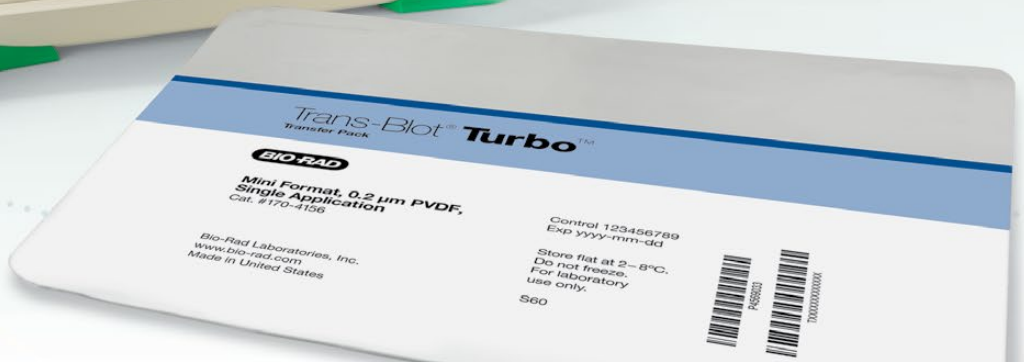


The Trans-Blot Turbo is a fast, efficient, and reproducible transfer system for transferring proteins from gels to membranes in as little as 3 minutes.





# Getting to the Finish Line Faster!



Bio-Rad introduces the Trans-Blot Turbo System — the next innovation in protein transfer. The Trans-Blot Turbo System reduces transfer protocols for gels to as little as 3 minutes while maintaining high efficiency, high throughput, and the flexibility to run turbo or traditional semi-dry protocols.

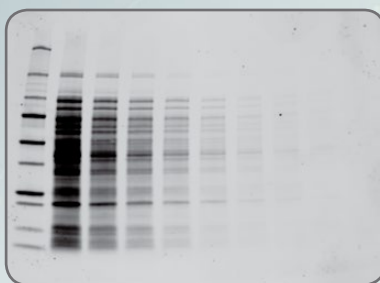


#### Turbo Transfers with Trans-Blot Turbo Transfer Packs

- **3-minute protocol** — a single Mini-PROTEAN® TGX™ Gel (for proteins with MW 5–150 kD) can be transferred in as little as 3 min
- **7-minute protocol** — up to 4 mini or 2 midi gels with mixed-molecular weight proteins (MW 5–150 kD) can be efficiently transferred in 7 min
- **10-minute protocol** — up to 4 mini or 2 midi gels with high-molecular weight proteins (MW 25–300+ kD) can be efficiently transferred in 10 min



3 min transfer



7 min transfer



10 min transfer

**Protein transferred using different protocols.** *E. coli* lysate (6 µg) was diluted twofold. Samples were separated with Mini-PROTEAN TGX Gels, transferred with the Trans-Blot Turbo System, stained with SYPRO Ruby, and imaged. Standards in lane 1 are Precision Plus Protein™ Unstained Standards, with a top band of 250 kD.

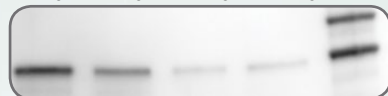


#### Superior Transfer Efficiency

- Higher sensitivity and better transfer efficiency is seen with the Trans-Blot Turbo System in comparison to other blotting techniques. This data set demonstrates successful transfer of the 1.25 ng protein band only with the Trans-Blot Turbo System

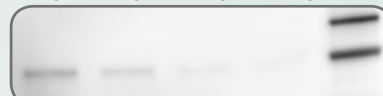
##### A. Trans-Blot Turbo System

10 ng    5 ng    2.5 ng    1.25 ng



##### B. Tank blot

10 ng    5 ng    2.5 ng    1.25 ng



##### C. Semi-dry blot



##### D. iBlot System (Life Technologies)



**Superior transfer efficiency.** Serial dilutions of transferrin were separated on a 4–20% Criterion™ TGX™ Gel and transferred using four different blotting techniques. **A**, Trans-Blot Turbo System (25 V for 7 min); **B**, tank blotting (100 V for 30 min); **C**, semi-dry blotting (25 V for 30 min); **D**, iBlot System (P3 protocol for 7 min).



**Throughput and Modularity**

- **High throughput** — up to 4 mini or 2 midi gels can be transferred simultaneously, doubling the throughput of our nearest competitor
- **Modular** — assemble and run transfers independently with the two cassettes. A single unit and multiple cassettes can be purchased to satisfy a whole lab's blotting requirements



**System Flexibility**

- The Trans-Blot Turbo System accommodates both traditional semi-dry as well as rapid transfers



**Prepacked Consumables**

- Ready-to-use transfer packs eliminate extra membrane, filter paper, and buffer preparation. Setup time is reduced to 1 minute from the opening of the gel cassette to the start of the transfer
- Ready-to-assemble transfer kits provide all consumables to transfer 40 blots, including transfer buffer, transfer stacks, and the option to select from nitrocellulose, PVDF, and LF PVDF membranes



**Intuitive Interface**

- Provides customer confidence in protocol selection and execution. Select from optimized preloaded protocols or customize and save/recall up to 25 user-defined transfer protocols

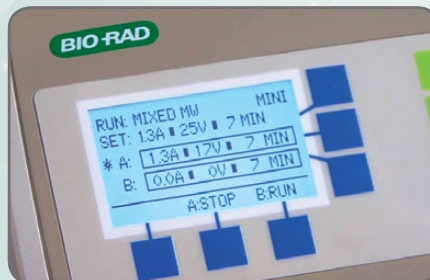
Throughput Comparison Based on Transfer Methodology

	Tank	Semi-dry	iBlot System	Trans-Blot Turbo System
# of mini blots	2	4	2	4
Transfer time	30 min +	30 min +	7-10 min	3-10 min*

\* Transfer times are optimized for specific molecular weight ranges

System Flexibility

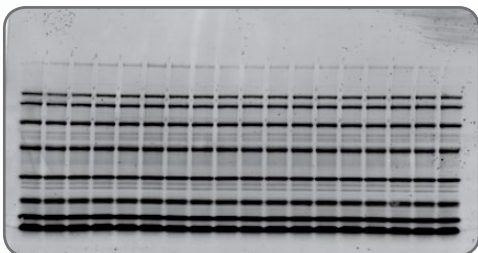
Current Method	Transfer Efficiency	Throughput	Speed
Tank transfer	●		
Semi-dry transfer		●	
Trans-Blot Turbo transfer	●	●	●



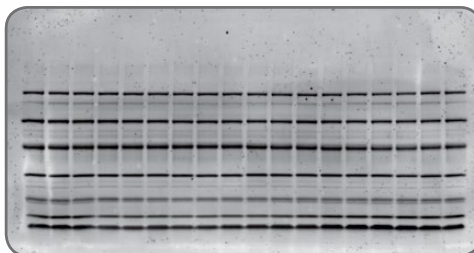
## Universal Rapid Transfer

The Trans-Blot Turbo System was developed to deliver the most uniform transfer for all proteins regardless of molecular weight, post-translational modifications, or protein pI

- **6x stronger signal intensity** — signal intensities after the transfer were calculated to be 6x stronger with the Trans-Blot Turbo System compared to the iBlot System
- **50% decrease in CV** — CVs across a single blot were 50% lower with the Trans-Blot Turbo System than with the iBlot System



Trans-Blot Turbo System



iBlot System

Intra-blot CV  
Trans-Blot Turbo  
System

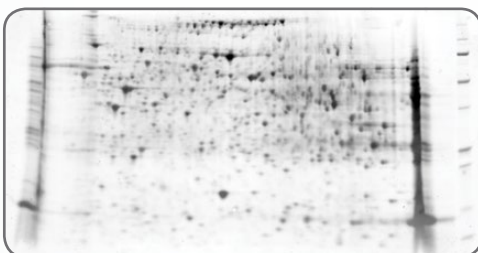
9%

iBlot System

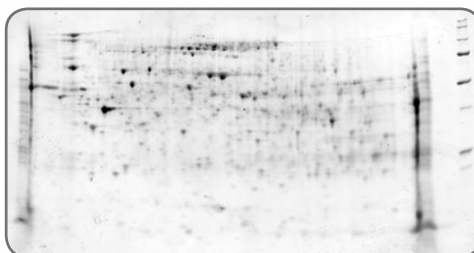
17%

**Reproducibility across blot.** Bio-Rad's SDS-PAGE Broad Range Standards were separated on 4–20% Criterion Gels and transferred with the Trans-Blot Turbo and iBlot Systems, both using manufacturers' recommended 7 min protocol. The nitrocellulose membranes were subsequently stained with SYPRO Ruby and imaged.

- **2x protein transfer** — quantitation performed on equivalent 2-D gels transferred with the Trans-Blot Turbo and the iBlot Systems demonstrated twice the number of proteins transferred and detected with the Trans-Blot Turbo System



Trans-Blot Turbo System



iBlot System

2-D Spot  
Quantitation  
Trans-Blot Turbo  
System

1066

iBlot System

555

**Higher transfer efficiency using the Trans-Blot Turbo System.** Rat liver extract was focused on Bio-Rad's ReadyStrip™ IPG Strips (11 cm, pH 5–8) and separated on an Any kD™ Criterion™ TGX™ Gel. Duplicate gels were transferred with the Trans-Blot Turbo and iBlot Systems, both using manufacturers' recommended 7 min protocol. The nitrocellulose membranes were subsequently stained with SYPRO Ruby and imaged.



## Ordering Information

Catalog #	Description
<b>Trans-Blot Turbo Systems and Accessories</b>	
17001917	Trans-Blot Turbo Starter System, Mini, PVDF
17001919	Trans-Blot Turbo Starter System, Midi, PVDF
17001918	Trans-Blot Turbo Starter System, Mini, Nitrocellulose
17001915	Trans-Blot Turbo Starter System, Midi, Nitrocellulose

<b>Trans-Blot Turbo Transfer Packs</b>	
1704156	Trans-Blot Turbo Transfer Pack, Mini, PVDF, pkg of 10
1704157	Trans-Blot Turbo Transfer Pack, Midi, PVDF, pkg of 10
1704158	Trans-Blot Turbo Transfer Pack, Mini, Nitrocellulose, pkg of 10
1704159	Trans-Blot Turbo Transfer Pack, Midi, Nitrocellulose, pkg of 10
1704151	Trans-Blot Turbo Cassette, single

<b>Ready-to-Assemble (RTA) Transfer Kits</b>	
1704270	Trans-Blot Turbo RTA Transfer Kit, Mini, Nitrocellulose, for 40 blots
1704271	Trans-Blot Turbo RTA Transfer Kit, Midi, Nitrocellulose, for 40 blots
1704272	Trans-Blot Turbo RTA Transfer Kit, Mini, PVDF, for 40 blots
1704273	Trans-Blot Turbo RTA Transfer Kit, Midi, PVDF, for 40 blots
1704274	Trans-Blot Turbo RTA Transfer Kit, Mini, LF PVDF, for 40 blots
1704275	Trans-Blot Turbo RTA Transfer Kit, Midi, LF PVDF, for 40 blots

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Group

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